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Service Learning and Assessment: A Field Guide for Teachers

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SERVICE-LEARNING AND ASSESSMENT:

A Field Guide for Teachers



**National Service-Learning and
Assessment Study Group
October 1999**

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Susan Bonthron (documentation consultant) and Rick Gordon (National Study Group Facilitator) edited the contributions from each local study group that comprise the body of this Guide. Rick Gordon wrote chapters 2 and 9; Susan Bonthron wrote Chapter 1 and designed, edited and formatted the document. They would like to thank all the National and Local Study Group members for their cooperation in this three-year effort.

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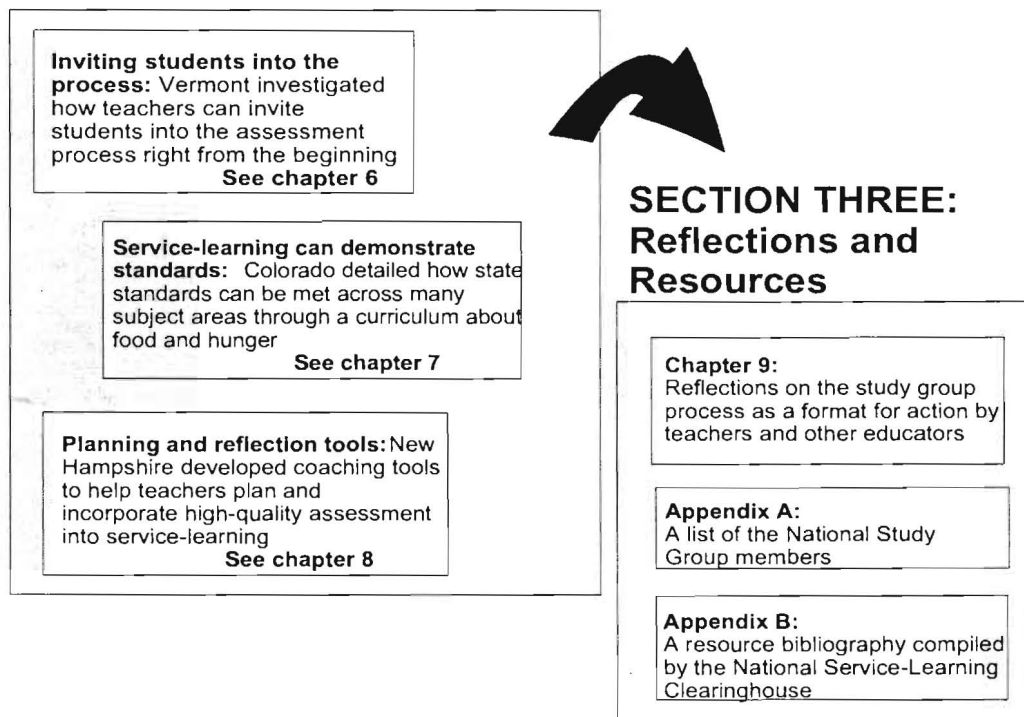
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1 INTRODUCTION TO SERVICE- LEARNING, ASSESSMENT, AND THE NATIONAL STUDY GROUP

Service-Learning and Education Reform

Recent advances in understanding the human brain, intelligence, and how we learn¹ indicate that successful schools need to provide

- ◆ rich, safe learning environments that address multiple realms of intelligence;
- ◆ opportunities for experiential learning to promote construction of knowledge and understanding;
- ◆ opportunities to develop both intelligence and skills through mediated learning;
- ◆ opportunities to transfer learning through reflection; and
- ◆ balanced assessment measures that include portfolios and performance assessments as well as more conventional standardized tests.

At the same time, there exists a widespread movement in education reform toward standards-based education that emphasizes both content knowledge and the development of critical thinking, problem-solving and social skills that apply across the fields of knowledge. State standards are now in place across the country that try to define exactly what it is we want all our students to know and be able to do.

The confluence of these two streams in education reform—brain-based learning and standards-driven education—place service-learning neatly at the center of education reform. Service-learning as a teaching and learning strategy can help teachers move away from traditional learning and assessment practices toward authentic assessment, standards-based education, development of critical thinking skills and social responsibility—practices in line with current trends in research and education reform.

What is service-learning?

Service-learning is a teaching and learning strategy that combines the principles of experiential learning with service to the community. Through service-learning, students develop as citizens, learn problem-solving skills, and experience a sense of social responsibility by engaging in thoughtful action to help their communities. Students involved in

¹Robin Fogarty provides a very brief encapsulation of the research on brain-based learning in her article entitled “The Intelligence-Friendly Classroom,” (*Phi Delta Kappan*, May 1998).

service-learning deepen and reinforce their newly acquired content knowledge and skills by using them to address real community needs. They experience themselves — and are perceived by others — as competent, contributing members of the community.

Practiced at its best, service-learning offers a bridge from traditional teaching practice to richer learning environments and opportunities, and it frames the thinking process about student learning and assessment in which educators across the country are now engaged.

The National Study Group on Service-Learning and Assessment

As the Serve America initiative in 1992 grew into the Learn and Serve America Initiative that now operates in every state of the union, educators began to ask what it is that students were learning through service and how such learning could be identified and assessed. Practitioners of service-learning understood its positive effects on students, but they also understood that assessment drives teaching practice, and without some means to assess what students learn through service, they would not be able to justify time spent on service-learning in and out of the classroom. In October 1994, Vermont took the lead in organizing a National Service-Learning and Assessment Network (NSLAN) to identify issues and questions around assessing student learning through service. As a direct outgrowth of this network, the National Study Group (NSG) on Service Learning and Assessment was formed in October 1996, with a generous grant from the Corporation for National Service and support from the Council of Chief State School Officers. The NSG met a total of eight times in the period from October 1996 through June 1999, engaging in rich discussions about assessment versus evaluation, student learning, state standards, and authentic assessment tools and techniques. Many of us also met with local study groups throughout that period.

Our Members The National Study Group comprised state service-learning directors, assessment directors and consultants, evaluators, researchers, and professors of education from California, Colorado, District of Columbia, Maine, Minnesota, New Hampshire, Vermont, and Washington State. It also included representatives from four organizations: Outward Bound, KIDS Consortium, East Bay Conservation Corps, and Close Up Foundation. Appendix A provides a complete member list.

The Challenge The National Study Group had to grapple with many issues around assessment before we could begin to define what we could realistically expect to accomplish. Our goal eventually became the production of a field guide for teachers to help them develop assessment techniques useful in their service-learning curriculum. Not wanting to reinvent the wheel, we also recognized that teachers already used many assessment strategies they could apply to service-learning, and that part of our job was simply to instill confidence in teachers about what they were already doing, and to help them see the connections between

various service-learning activities and the state standards that they were trying to incorporate into their curricula.

The Focus on Student Assessment The National Study Group purposely focused on student assessment rather than program evaluation. We understood that the two are interrelated, but felt that while significant progress had been made in determining best practices in service-learning, there was an increasingly widespread demand for knowledge in the field about how teachers can and should identify and assess what their students learn through service. We were also interested in sustaining service-learning as a *teaching strategy integrated into the curriculum* rather than an add-on program.

One of our first steps was to form local study groups (in California, Colorado, District of Columbia, Maine, Minnesota, New Hampshire, and Vermont) comprising an assessment consultant and four or more classroom teachers already using service-learning strategies. These local study groups focused on finding best practices in the assessment of student learning through service in both content and skills areas. Classroom teachers were invited because National Study Group members felt strongly that we needed to pay close attention to what teachers were already doing (and were able to do) in order to ensure that the tools would be useful, applicable, and field-tested in real settings. Local study groups established their own priorities in choosing which state or local standards and which content and skill areas they wanted to address in collecting or creating assessment tools. Officially, the mission of the National Study Group was to:

- ◆ provide guidelines to the local study groups to develop standards-based tools to assess (or develop assessments for) student learning through service;
- ◆ critique the tools collected or developed by the local study groups;
- ◆ document and share information about what the local and national groups are doing.

Assessment as Feedback Student assessment has multiple purposes, including grading, sorting, diagnosing strengths and weaknesses of students, evaluating effectiveness of curriculum and delivery models, reporting to parents and schools, identifying misunderstandings, offering a sense of direction, and celebrating accomplishments.

Responding to the latest research in the field, the NSG chose to focus on *assessment as feedback that helps students learn*. We discussed what kinds of feedback contribute most to student learning. We agreed that students need to know what is expected of them, what they have done well, and what they need to improve on (as well as how to improve).

Responding to the recent establishment of statewide standards, we also recognized that students need to be familiar with their state standards and to know where their work stands in relation to those standards. We came to the unavoidable conclusion that paper and pencil test results could not

supply students with enough feedback to improve their work. At worst, such tests only provide feedback on how well a student can memorize and regurgitate content matter, or how skilled students are at taking tests. Even at best, such tests alone do not provide sufficient feedback to teachers about whether and how well their students are meeting established standards.

When we began to gather and examine assessment tools such as rubrics and checklists, we quickly discovered that it was meaningless to look at the tools unless we could also look at the context in which they were used, including the standards they addressed, the student work (product or performance) chosen for assessment, and the criteria used for assessing the work. Toward that end, we eventually developed two “planning tools” to help teachers in local study groups develop exemplars of thoughtful service-learning experiences. Study groups then used and transformed these planning tools in ways that best suited their work. The exemplars each group developed attempt to align selected standards with student products/performances, assessment criteria and tools, and benchmark examples of work that meets those standards.

At its meeting in January 1998, the NSG discussed how we would disseminate the work we were collecting, and decided on a format for the document you are reading now. Our idea was to develop a field guide that would help teachers plan or align their service-learning strategies to incorporate all the elements discussed above. We hope that the resulting *Field Guide* will provide educators at all grades and levels with a professional development tool to help them use the strategy of service-learning as an integrated piece of their standards-based curriculum and assessment practice.

About this Document

The *Field Guide* you are reading is the culmination of this three-year effort by our national and local study groups to research, test, and share what we have discovered. It is aimed at teachers who are interested in using service-learning as a teaching–learning strategy, regardless of whether you have been engaged in service-learning before. It is organized as follows:

Section One

Section One comprises the two introductory chapters:

Chapter 1: “Introduction to Service-Learning and Assessment”

This chapter introduces the work of the National Study Group and this *Field Guide*.

Chapter 2, “Recurring Issues with Assessment of Learning Through Service”

Chapter 2 encapsulates our learning about assessment over the three years of our work together in national and local study groups.

Section Two

Section Two is the heart of this guide. Each of its chapters represents the work of a state study group and offers a unique “gift” to the field in its particular approach to the topic of student assessment of learning through service. All six chapters begin with a list of the study group members, an abstract providing a brief overview of the chapter, a Table of Contents indicating the main subject areas covered, and a brief description of the state context in which the study group was operating. Many chapters also include a description of the study group’s process. The chapters are described below.

Chapter 3: “Planning Service-Learning Classroom Assessments: A District of Columbia Case Study”

Members of the District of Columbia study group describe an assessment planning process that can help students meet standards while they engage in service-learning. The chapter offers a road-map for planning assessment strategies that address standards with examples from a particular case study.

Chapter 4: “Using Rubrics to Assess Learning Through Service in Maine”

The Maine study group focuses on collecting and creating rubrics that help direct and provide feedback on student products and performances commonly generated by service-learning. Their approach to assessment is a combination of rubric-based authentic assessment and on-demand tasks determined by individual teachers.

Chapter 5: “KWLs and Anchor Tasks: Assessing the Dimensions of Student Learning Through Service”

California’s study group identified three dimensions of student learning that occur during service-learning. Their chapter explores combining the student self-assessment (KWL) with the teacher-generated anchor task as a strategy for assessing student learning across all three dimensions. Their approach is applicable to all service-learning projects and activities.

Chapter 6: “Invitation to Learn: Involving Students in the Assessment Process”

Vermont’s study group investigates how teachers can invite students into the learning process by involving them in the planning and assessment of service-learning. Their example is a service-learning unit on gardens closely linked to standards that emphasizes collecting multiple sources of evidence to provide a rich picture of student achievement.

Chapter 7: “What’s for Lunch? How Does Food Affect You and the World?”

Colorado’s study group chapter investigates how service-learning itself can be an excellent method for demonstrating student achievement of standards. It details an example project about Food and Hunger, showing how service-learning can address standards through an inquiry-driven model integrated across a wide variety of disciplines.

Chapter 8: “Improving Teaching and Learning in New Hampshire through Effective Assessment of Service-Learning”

The New Hampshire study group shares their challenges in

grappling with assessment issues, and presents the “Planning and Reflection Tool” they developed to help coach New Hampshire teachers in high quality assessment of student learning through service. Their study group process has broadened and enriched the assessment discussion statewide.

Section Three

Section Three includes a final chapter about the study group process itself along with two appendices:

Chapter 9: “Reflections on the Study Group Process”

This chapter addresses the issue of using study groups as a format for action research by teachers and other educators. It summarizes what the National Study Group members learned about working in study groups with their states.

Appendix A: National Study Group Members

An inclusive list of members of the National Study Group who shared in the effort to produce this guide. (A list of local study group members precedes each study group chapter.)

Appendix B: Resource Bibliography

A bibliography of books, Internet websites, and other resources to help teachers who want to pursue the goal of incorporating useful assessment strategies into their service-learning practice.

How to Use the Guide

We have formatted this document to fit a looseleaf binder in the expectation that you will add your own exemplars, notes, and research. The *Guide* is designed to be accessible from a number of different points, depending on your interests and experience. If you are new to the field of service-learning, you might want to read it consecutively; if not, you might choose to browse whatever chapters catch your eye. No one chapter need be read as a prerequisite for any other. The ideas and approaches offered here are not “prescriptions for good practice.” They are meant to provide suggestions and clues about how to develop your own service-learning strategies and assessment tools. Feel free to adapt and refine them to suit your site and standards.

We hope the *Guide* helps to clarify the complex process of aligning your assessment practice with standards and student work related to service. Our ultimate goal is to integrate service-learning as an acceptable teaching and learning strategy in the curriculum of schools nationwide. We can accomplish this if we ensure that student learning through service addresses desired standards and is assessed using appropriate tools and processes that validate the skills and knowledge students gain through service. In doing so, we can also help to build a bridge toward a *culture of assessment and reflection*, developing collaborative networks within and between schools, communities, and from state to state that can help us move toward more meaningful assessment practice.

2 RECURRING ISSUES WITH ASSESSMENT OF LEARNING THROUGH SERVICE

Assessment is a Complex Issue

Our three year study of the assessment of learning through service involved national leaders in service-learning and assessment, teachers who had long experience with service-learning, and some who were new to the field. There were study groups in each of six states and a national study group made up of educational leaders. In each of these settings, we talked and thought and explored and talked some more.

Our most significant learning from this experience has been that *assessment is a complex issue*. We initially hoped to discover and refine a set of tools to help teachers assess what students learn through service with the intention of offering them to the field. We learned that it just isn't that simple. We also learned that thinking deeply about assessment and discussing it with others provides some of the best professional development and learning educators can experience.

What we offer in this guide is insight into our learning — the common themes that arose from state to state and the understanding (if not answers) we arrived at by struggling with issues of assessment, service, and student learning. Foremost among these was the understanding that *assessment could be at the heart of learning* — that assessment was not simply about grading, but was a process that entailed setting goals, clarifying expectations, generating evidence of student competency, and providing feedback in a variety of ways. Done well, assessment works in service of learning, to help teachers, students, and families be better able to help students succeed in school and beyond.

A Vignette

Students in Ms. Lary's class are producing a video history of their town. Students collect information by interviewing senior citizens, researching at the historical society, collecting old photos and town records. Through careful analysis and editing, the students create a fifteen-minute film that brings the history of the town to life. This video is presented at the Senior Citizen Center and becomes a much valued resource at the town library. From this service-learning experience, Ms. Lary knows the students learned a great deal about history, interviewing, video production, working with others, writing and editing, and, perhaps most importantly, about sharing time with members of an older generation. Unfortunately, Ms. Lary can't see how to assess all this — and she knows that when the state test comes along in the spring, Tim and Sally and Michael won't be able to show what they learned on this statewide assessment. As usual, Tim will be too nervous to concentrate, Sally's reading deficiencies will limit her ability to follow directions and read questions, and Michael just

doesn't work well under strict time pressure. She knows that nowhere on the test will there be a chance to explain how students have learned to work together or how their connections with seniors make theirs a stronger community. Nor will the writing prompts on the test provide a place for the thinking, drafting, feedback, and editing that is her students' normal writing process in her class.

Distressed by the disconnect between her students' learning and the assessment methods she uses, Ms. Lary joins an assessment study group at her school. When her colleagues begin to discuss their reason for forming this group, they realize they share the same challenges. After a year of reading in the field, talking to other teachers, and visiting classrooms, Ms. Lary is ready for this service-learning experience again. This time, she helps the students clarify from the start the standards they will be working on in this project. For each standard, the class determines what would constitute quality work. As students work on this project, Ms. Lary checks on their progress, records observations on their work in class, leads in-class discussions about successes and challenges, and has students write short responses to detail their contributions to the work and what they see as their strengths and weaknesses. Ms. Lary gives students a test that asks them to give advice to interviewers, to write an essay on the town's history, and to discuss one thing they felt they learned from working with seniors. In addition, she collects and provides feedback not only on the student's final script and video, but also on individual interviews and writing drafts to get a complete picture of how each student has done on this service-learning project. Most of this, she realizes, is what she always had done, but until now she has not been so conscious about its purpose or how to document it. By clearly identifying the assessment process and including her students in it from the start, Ms. Lary found she not only had a much better handle on what each student had learned, but she found the quality of the student work improved as well.

Essentially, the vignette above is characteristic of the process many of us went through in our study groups. Like Ms. Lary, we knew that valuable learning was happening during service-learning, but we didn't know how to capture it. The remainder of this chapter encapsulates what we have learned.

Lessons Learned

Assessment is different from evaluation We spent a good deal of time simply distinguishing these terms. Evaluation, for us, refers to feedback on programs as a whole. Assessment refers to feedback on student learning. Until recently, evaluation has been more of a focus in service-learning than assessment. Partly due to requirements of funding sources, programs were required to report on hours of service, numbers of students involved, people served, money spent, and so on. These "macro" programmatic measures reflected what was done but not necessarily what was learned. Student achievement in general, rather than specific student learning, was evaluated indirectly through measures correlating test scores and grades with participation in service.

To better understand how service impacts student learning, a more "micro," personal view is necessary. Assessment should tell us how individual students are doing — what are they learning and what are they struggling with? While this can be a more challenging process than simply counting hours served or giving a test, it offers a much richer picture of what results from service. Done well, assessment provides students with feedback on their performance and direction for improvement, and it helps teachers better articulate the effectiveness of this approach to learning. While part of the assessment process involves evaluating the quality of student work, this information should be used less to sort students and more to help inform teachers how to adjust learning experiences to assure each student's achievement of desired standards.

Program evaluation is necessary and will continue to be a valued reflection on program implementation. But the specific learning that occurs through service demands greater attention. Student assessment helps to promote student growth and development and justify the continued support of service-learning as a viable path to student learning. The list in **Table 2-1** compares program evaluation with student assessment, seeking to distinguish the relative merits and challenges of each.

Table 2-1: Comparison of Program Evaluation and Student Assessment

Program Evaluation	Student Assessment
Programmatic	Individual, personal
Feedback on programs	Feedback on students
Reporting mainly to higher ups	Reporting to students
More numerically based	More competency based
Tells what was done	Tells what results occurred
Generalizes	Specifies
Formative and Summative	Formative and summative
More easily verifiable and validated	More challenging to establish validity/reliability
Tends to follow more set procedures	Requires relationship, judgment, expertise
More generic process and structure	Context-dependant and idiosyncratic
More easily learned & applied	Requires developmental learning for assessor
More confined and manageable	Unlimited and expansive
Can be viewed as "paperwork"	Can be meaningful and emotional
More product oriented	More process oriented
Assesses service provided	Assesses learning related to service

Assessment is not a bad word For many study group participants, their initial feelings about assessment were quite negative. Assessment was associated with grading, sorting, testing, and increasing student anxiety. Assessment was viewed as separate from teaching and learning. One person felt assessment followed the “gotcha” model — spotlighting students’ lack of knowledge, misunderstanding, or poor work habits.

After much work, we came to see assessment as a “collaborative success venture between teacher and student” (Cumbo). Assessment can be a positive tool rather than a punitive one. Assessment is about feedback to the teacher and the student to inform us how things are going and what needs to be adjusted to assure student learning. Assessment is a process “happening all the time in the good teacher’s classroom, where one is determining if a particular student is falling behind or where and when things should be retaught” (Weiss). Coming to see assessment as “not a dirty word” takes time; unpacking our assumptions, traditions, and beliefs about assessment is a complex task.

Assessment is a challenge to discuss “What I now know about assessment now is that at first it’s hard to talk about; then, it’s easy to talk about and hard to do. Then it gets easier to do but hard to decide how much to do. Then it is hard not to see that everything is connected to assessment when you’re in the business of education.” (Preble). Becoming a good assessor, like most learning, is a developmental process. In contrast to the picture created by mandated large scale testing, there is no simple tool for assessing learning, especially learning through service.

For many, their initial perspective viewed assessment as grading: The student hands in a piece of work and the teacher determines a grade for it. Sometimes this grade is based on predetermined and public criteria. More often, the grade relates to a more general feeling about the quality of the work. A more sophisticated consideration of assessment begins to raise issues of standards and criteria. What “counts”? What constitutes quality work? How do I know if my criteria are comparable to those used by other evaluators? Am I consistent from one student paper to the next? Am I consistent from one assignment to the next?

Then there is the issue of improving the quality of student work. Simply grading work after it is completed and telling students it is inadequate doesn’t necessarily help students improve the quality of their work. Letting students in on what is expected up front can help them produce better work. As the adage goes, “it is much easier to get somewhere if you know where you are going.” Further, giving feedback that is more specific than an overall grade helps tell each student what exactly they did well and what they need to improve upon. This too can help improve quality.

Thinking further about assessment, teachers begin to consider whether any single product (a test, essay, term paper, lab report, etc.) is a reliable measure of student learning. How do we include students who may not

be as adept as test takers, writers, or speakers? What if it was just a bad day for the student when they worked on the test, paper, or presentation? These are questions of evidence — what evidence do you have that reflects student learning and how solid is this evidence? Could the student have understood the material but not have shown it in this product? Or could the student have produced a good product but not understood the material? Here is where having multiple pieces of evidence and multiple measures can provide a richer and more reliable picture of student learning. Teacher observations of students participating in s-l, student self-reporting in journals, peer feedback on contributions of team members' work, working drafts and completed products, comments from those served, and in-class reflections on the service together can substantiate our assessment of student learning.

Finally, when we have all this information about student learning, what do we do with it? How can we use our understanding about what students have learned and what they have not to shape future learning experiences? How can we adapt to meet individual student needs? How does our assessment inform our instructional practices? Suddenly, assessment has become central to all we do in the educational enterprise.

Once we get past the view of assessment as only grading and begin to see the complexities and challenges all educators face, it gets easier to talk about. When we talk about it, we begin to find ways to improve our assessment, to formalize the informal, to make the implicit more explicit, to clarify the cloudy. Soon, assessment becomes something we may want to be doing all the time, and in a way, good teachers probably do this. They are always assessing who is engaged and who is drifting off, who looks puzzled and who looks confident. And they are continually adjusting their teaching to pull this kid in here, to help this one over there. The New Hampshire chapter highlights this journey of teachers learning to talk and think more deeply about assessment.

Assessment is a process, not an event We began the study group process looking for assessment tools to use in service-learning. After collecting many tools from many teachers, we realized assessment wasn't really about just having better tools. Without knowing more about the context — the setting, the students, the time of year, the previous work students did, the details of the service-learning — it was difficult to see the value of any particular assessment tool. As we came to understand, "Assessment is a process — it's not just having a tool, but knowing how to use it, when to use it, when it's appropriate, how to use the results" (Gordon).

Given the importance of context, we can't provide one model for assessment that fits all situations. What we can offer is our overall understanding about assessment based on a lot of thinking and working together. In the end, study group participants came to see that assessment:

- is complex and multi-dimensional
- centers on feedback
- is rooted in context (i.e., situational)
- can be done by the teacher and students

- is both informal and formal
- is on-going (i.e., it should occur not just when work is done but while students are working and learning).

The chapters from each state study group elaborate on one or more of these ideas. Vermont highlights the involvement of students in the assessment process. California offers a strategy for on-going, embedded assessment throughout the learning process. Maine provides examples of how rubrics can be adapted for wide range of contexts. District of Columbia gives us a case study of how to manage the complexity of assessment within a service learning project. Colorado gives us a rich example of the multi-dimensional possibilities of service-learning and assessment. New Hampshire shows us the developmental process of teachers as they increase their understanding and application of assessment practice.

Standards help guide the assessment process In the current national educational climate, much of our conversations at the National and State level naturally revolved around standards. Once we came to see assessment not as a means to sort winners from losers but as a process for feedback on student learning, *standards became a real aid to the learning process.*

Realistically, we know there is always more out there than we can possibly teach in the confines of the school calendar. Teachers are always making choices about what is most important to learn and how to address these learning goals. State standards help provide a lens through which to make these choices.

We debated over where standards enter the learning process. For some teachers, standards are identified first and then used to design learning experiences. Others choose a learning activity, such as a s-l project, and then identify what standards are best related to this experience. In either case, the standards help define what is addressed, and more importantly, what is assessed. If feedback is to be concrete, specific, and useful to individual students, not every aspect of a s-l experience can be assessed. Knowing which standards are priorities, teachers can work with students to specify quality criteria, develop student competency, and generate evidence of achievement related to that standard. Thus, standards serve as a resource for teachers that provides focus, phrasing, and expectations that can guide the learning and assessment process.

Expect the Unexpected Part of the wonder in service-learning lies in its unintended results. Some of the most gratifying moments in service-learning happen when students go beyond the expectations we hold or when serendipity steps in to offer a unique learning opportunity. If we only assess standards we plan for, these magic moments may be easily missed. On the other hand, if we are so open as to leave everything to chance, many valued standards may never be addressed in a student's school experience. By opening the door to some degree of uncertainty, service-learning paves the way to the possibility of unexpected learning.

Leaving open opportunities for students to express their learning, to choose from a variety of products, and to explore areas of particular interest can help generate evidence of these unintended results. The KWL tool that the California chapter details is one way to let students share what they have learned, whether planned for or not. Portfolios are another strategy to allow for different representations of learning from students. And as the Maine chapter shows, almost any product can be assessed using rubrics created by teachers and their students. Whether the learning was planned for or arose in the course of providing service, the process of assessment — identifying standards, producing evidence, offering feedback — can be essentially the same.

Service-learning itself can be an assessment Study group members came to the conclusion that assessing what students learn through service is not really different from assessing any learning experience. Whether students learn through a lecture or a lab or a research project or service to the community, the function of assessment is to determine what students learned from this experience. The same tools can be used regardless of the learning method. In any of these settings, teachers can test for content knowledge, review student writing for insights into their thought processes, or observe students at work to see skills demonstrated.

The one major distinction for service-learning, like other experiential learning opportunities, is that much of the evidence of student learning is demonstrated in *the act of performing* the service itself. Rather than separating the learning and the assessment (such as when students acquire information through reading or a lecture and then need to demonstrate their learning on a separate assessment such as a test or paper), service-learning can be the way students both learn and demonstrate their learning. As students perform their service, they produce evidence of learning. The brochure for the recycling center, the planning for a community forum, the data collection on water quality, the guide to the nature trail — this work of s-l generates evidence that can be assessed. Maine's chapter helps us see the range of products produced in s-ls and how they can be assessed.

One challenge with service-learning is that some demonstration of learning occurs "in the field" and may therefore be harder to capture. To address this, teachers need to establish processes to capture this learning. For example, observation is a great source of evidence, but if undocumented, much of this evidence can slip away from a busy teacher's mind. Observation checklists or anecdotal record keeping can help retain these observations. Likewise, some of students' best work can occur when working with other students or alone, when no adult is watching. Journal entries, peer evaluations, and group discussions can all serve to help document this learning. California's chapter elaborates on one widely applicable tool that can help capture student learning from start to finish of a service-learning project.

Ultimately, service-learning might be one of the best means for assessing student learning. Through service-learning, a wealth of evidence can be collected that demonstrates student achievement along a wide range of

standards. Generated in a real world context, this evidence can serve as a truly authentic assessment of what students know and can do.

Service-learning is particularly good for addressing certain standards

While service-learning can serve as a vehicle for demonstrating achievement of almost any standards, study group members felt it was particularly useful for certain standards that are difficult to see evidenced through other assessment methods. For example, citizenship and social responsibility are uniquely well demonstrated in service-learning. In fact, it is hard to see how these can be demonstrated strictly in classroom settings. Other standards, such as those related to problem solving, decision making, and teamwork, while potentially addressed through other learning methods, are often deeply embedded in the service-learning process.

Involve kids in the assessment process

When assessment is perceived to be more about learning than grading, students become integral to the assessment process. As emphasized particularly in the Vermont chapter, students can be involved at every stage of the assessment process. They can help determine the standards to be addressed and they should be part of deciding the criteria for what constitutes quality work. Students can help choose what will provide evidence of their learning. They can provide feedback on the work of their peers and they can assess their own work.

This is what Grant Wiggins calls the “no surprises, no excuses” approach to assessment. If what we are aiming for in education is learning for all students, then it seems logical they should all know up front what is expected of them. In common sense terms, it’s a lot easier to get to St. Louis if you know that is where you are heading. Bringing students into the assessment process from the start — letting them know what they are expected to learn and what quality work looks like and what “counts” — leaves no surprises for students. Knowing the target, and given appropriate support, feedback, and time for improvement, all students can eventually meet the standard.

3 **PLANNING SERVICE-LEARNING CLASSROOM ASSESSMENTS: A DISTRICT OF COLUMBIA CASE STUDY**

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Abstract

The District of Columbia Public Schools Assessment Study Group chapter uses an assessment planning process to demonstrate how service-learning can help students meet challenging academic standards. The chapter provides a road map for planning assessments, offers tools to help in the planning process, and illustrates these processes and tools with examples from actual District of Columbia Public Schools (DCPS) service-learning projects. The projects were linked to specific academic goals and DCPS performance standards.

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The State Context

Before we look at the work of our study group, it is important to point out where the District of Columbia Public Schools (DCPS) were in relation to the advent of service-learning and another critical reform; namely, the use of academic standards and how this informed our case study.

Service-Learning In 1992, the Board of Education for the DCPS instituted a graduation requirement of 100 community service hours for all students beginning with the 1995 graduation class. Students could select organizations, agencies, groups and individuals on their own or participate in agencies, groups or individuals in which they were placed through the Community Service Liaisons at their local school.

The goals of the community service program were to increase students' perception of self-worth, provide experiences for students to contribute to society without receiving monetary payment and prepare students better for the world of work. Community service opportunities should:

- (i) be developmentally appropriate and supervised by a responsible adult;
- (ii) emphasize the responsibilities and obligations of life as well as the enjoyment of its privileges;
- (iii) promote career exploration and work force skills; and
- (iv) emphasize benefits to both community and student.

During the 1993-94 school year, the DCPS Office of Community Service and Service-Learning Programs began oversight of system-wide community service attainment and the introduction of service-learning as an educational strategy in conjunction with the system's curriculum reform efforts. From 1994 through 1997 the Office of Community Service and Service-Learning Programs conducted training in service-learning as an educational strategy through staff development, summer courses for in-service and/or graduate credit, and professional development institutes for design teams in every senior high school and half of the junior high schools in the district. Service-learning teams were established in every high school and comprised the community service liaison, an AmeriCorps VISTA member, three to seven classroom teachers, and two service-learning youth council members. The training sessions provided instruction for more than 300 junior high and senior high school classroom teachers on linking community needs and services to existing curriculum and classroom practices. During the 1998-99 school year, service-learning training and efforts were focused on ninth grade teachers and students in conjunction with the city-wide School to Careers Initiative.

Academic Standards Currently, the DCPS have content standards for English Language Arts, Mathematics, Science, Art, Music, Health and World Languages. These are described in the *Standards for Teaching and Learning*, which was revised in April of 1999. Performance Standards, available for English Language Arts, Mathematics and Science, were developed in conjunction with the University of Pittsburgh and the National Center for Education and the

Economy. DCPS also have benchmarks for English Language Arts and Mathematics — descriptions of what students should be able to do by grades 3, 5, 8, and 11. In addition, DCPS assess students with the Ninth Edition of the Stanford Achievement Test (Stanford 9). Since 1998, students who score below basic on the Stanford 9 test are required to go to summer school.

Between 1996 and 1999, however, the system experienced several radically significant organizational changes. In 1997, the policy-making authority of the elected Boards of Education was suspended and replaced by a Congressionally-appointed panel, the Emergency Board of Trustees, which appointed a new superintendent. After one year he resigned; he was replaced by the current superintendent in 1998. During this period, the school system moved from performance-based education to standards-based education and experienced major reductions in central office personnel.

Chapter Organization

Part I describes the work of the Service-Learning Assessment Study Group and provides an overview of the case study project.

Part II describes two service-learning projects conducted by ninth-grade Algebra classes at Banneker Senior High School in the District of Columbia. It outlines features to consider in developing an assessment plan and uses examples from the Neighborhood Clean Up. Finally, it introduces a process for aligning classroom assessments to standards with examples from an “Alcohol in the Community” project that describes ways to design student tasks and scoring guides.

Part III describes lessons learned from this project and suggests improvements.

PLANNING SERVICE-LEARNING CLASSROOM ASSESSMENTS: A District of Columbia Case Study

Introduction

Like our peers throughout the nation, we educators in the District of Columbia Public Schools (DCPS) face the challenge of helping students meet content and performance standards. With standards-driven education, students must demonstrate that they have mastered the content or skill and that they are able to use it. This view of education requires classroom teachers to do more than transmit information and then move on to the next unit.

Just as standards are becoming part of the educational landscape, more and more teachers are incorporating service into their instructional practice. Service-learning offers students unique learning opportunities that connect students to the broader community. Both standards-based education and service-learning promise to better prepare students for the future. However, they pose new challenges for teachers. For example, how do teachers reconcile these new demands on their planning and instructional time? How do they weave these different elements into seamless learning opportunities?

Teachers are faced with finding ways to expand their repertoire of instructional and assessment strategies to help them teach to high standards. For teachers using service-learning as an education strategy, it is critical to design and carry out service-learning activities that align curriculum, instruction, and assessment. What sorts of processes or tools are available that can do just that? We believe assessment is the key.

As a Study Group we wanted to know what teachers need to support them in their efforts to integrate service-learning into their classroom instruction and then systematically determine how well their students are progressing toward standards. In this case study, conducted by one mathematics teacher, we explore ways to plan assessments that measure whether students are meeting the learning objectives or academic standards by participating in service and producing related work. It should be noted that the assessment planning models we apply to this case study were developed after the teacher led these service-learning experiences. We use the case study to illustrate the assessment planning model and to show both elements he used well and those he could have enhanced in the assessment of student learning.

We offer two practical approaches for crafting a curriculum-based service-learning project and systematically assessing student learning. In doing so, we focus on the *planning* phase of assessment process. It is in the planning stage that we define our purpose for assessing, how we will assess, and what we will do with the assessment information. Assessment, in our view, must go beyond simply evaluating and ranking

students. Assessment should be a part of instruction and it should inform a teacher's choice of instructional strategies. For assessment to accomplish all of this, it must be thoughtfully planned.

Part I: DCPS Service-Learning Assessment Study Group

The context and the process played an important role in the work of the Study Group. The District of Columbia Public Schools witnessed considerable change during our tenure (*see State Context*). The Study Group itself went through several phases to achieve its goals and objectives. The product of this process is this case study of two service-learning initiatives involving two ninth grade classes that explored the use of service-learning through the assistance of their Algebra teacher in 1998. The focus of the case study centered on the assessment planning process. We found the work of Herman, Aschbacher & Winters (1992) and Mitchell (1996) useful in discussing the process.

The Study Group Process The DCPS Service-Learning Assessment Study Group was formed in 1997 and coordinated by the Office of Community and Service-Learning Programs. The study group met every two weeks during its first year and less frequently during the second year. The Study Group began by reviewing the current use of service-learning in the schools, by learning more about assessment theory and strategies, and by examining the District's progress toward implementing content and performance standards. To accomplish this, the Study Group read and discussed current literature and considered local data from a number of sources. First, an informal survey of service-learning projects was conducted. Simultaneously, the Study Group created a list of criteria for judging the projects and for selecting a project to use as a case study. Based on these criteria, two projects were selected for the case study: *The Neighborhood Clean Up Project* and *Alcohol in the Community*. Both projects were planned by the Mathematics teacher and a VISTA volunteer and were carried out by two-ninth grade Algebra classes at Banneker Senior High School; they took an estimated 130 hours to complete.

Once the projects were selected as the case study, we needed to gather additional data from the teacher and student participants. We interviewed the teacher to

- (a) elicit primary data on how the service-learning project was conducted;
- (b) identify how student learning was assessed; and
- (c) provide insights on how future projects could be modified.

The Study Group also developed a written questionnaire to elicit student reflections and attitudes about the project. The survey was administered anonymously by a member of the Study Group. Finally, the teacher provided several documents that were developed in conjunction with the service-learning projects: a project overview and exemplars of student work (graphs, student letters and surveys). We are grateful to Russell

Jeter, III of Banneker Senior High School for providing us with these documents.

Part II: Planning Assessments

Our Study Group decided to focus on the planning aspect of the assessment cycle because the assessment plan directs other stages of the assessment process — how we collect information, how we analyze and interpret it and how we use the information. We also wanted to focus on how standards could be incorporated in the development of authentic classroom assessments because we feel such assessment provides the richest source of information on what students are learning; how well they are learning it, and how well they have been taught.

In Section A, we introduce a six-step process for planning assessments and use the Neighborhood Clean Up Project to illustrate the process. In Section B, we focus on developing classroom assignments and scoring guides that are linked to academic standards, using the Alcohol in the Community project as an exemplar.

Section A. Aspects of the Assessment Planning Process

An important part of the student assessment process is the planning stage. An assessment plan should address basic questions such as: (i) the purpose for assessing and the use of assessment results (ii) who to assess (iii) what to assess, (iv) how to assess and (v) when and how often to assess. Herman, Aschbacher and Winters (1992), in *A Practical Guide to Alternative Assessment*, provide a useful straightforward six-step process:

1. Determine the purpose of assessment.
2. Identify primary instructional goals.
3. Determine priority outcomes.
4. Select assessment tasks.
5. Describe the assessment task.
6. Set criteria and scoring procedures.

We discuss each of these steps and illustrate them using examples from the Neighborhood Clean Up Project described in **Figure 3-1**. The activities planned for the project are shown in **Table 3-1**.

Neighborhood Clean Up Project

A Neighborhood Clean Up Project conducted by a ninth-grade algebra class at Banneker High School was selected for the case study. The project was intended to address the ongoing problem of pollution and waste on the streets and sidewalks of the neighborhoods surrounding the Banneker High School community. The immediate objectives of the project were:

- to teach students about the environmental pollution problem in the community
- to engage students in a neighborhood clean-up; and
- allow students to use their algebra skills to mathematically analyze the amount of waste generated on different neighborhood blocks over periods of time.

The long-term objective of the project was to allow students to extend their mathematical skills outside the classroom in order to help solve real community problems. To accomplish these objectives, students were to

- use their pollution data to write to environmental policymakers; and
- educate the school and community about waste.

The students worked with the District of Columbia Department of Public Works and other adults to accomplish this task. As they picked up the garbage, they sorted it by type. Later, in class, the students graphed the type of trash, the area they cleaned, and the amount of time it took to clean it up. They graphed this data to illustrate the magnitude of the litter problem, determine how much waste accumulates in the community over a period of time, and compare the amount of waste on different neighborhood blocks. They created various graphs, ratios, and comparisons and learned to interpret what they meant. They then communicated what they had learned in one of many ways, such as letter writing, educational brochures, posters, and videos. Students also wrote letters to public officials about the litter. The final phase of the project included reflection and celebration to encourage the students to reflect on and appreciate the need for the service and its ultimate impact on the community. This phase was also an evaluation of the project and its level of success, and was therefore an opportunity to recognize and applaud students' efforts. Such appreciation can be as simple as a "thank you" over the school intercom, a visit from an official, or a certificate. For this project, students received a certificate from the Washington Wizards and tickets to a Wizards basketball game. Several students cited the award as an incentive for participating in service in the future.

Figure 3-1: *The Neighborhood Clean Up Project.*

Table 3-1: Activities planned for the Neighborhood Clean Up Project

Neighborhood Clean Up Project Planned Activities		
Description of Activities	In Classroom	Out of Classroom
Introduce the Neighborhood Clean Up Project	x	
Speaker addressing pollution and waste issues	x	
First neighborhood clean up on Georgia and Sherman Avenues		x
Do mathematical data analysis of amount of waste collected and create graphs	x	
Second neighborhood clean-up on Georgia and Sherman Avenues (one week after first clean up)		x
Do mathematical analysis of amount of waste collected and create graphs for second clean-up	x	
Compare data of first and second clean-up and create graphs of comparisons.	x	
Discuss findings and determine possible steps that the students might take to help with problems of waste and pollution.	x	
Work on final projects, including letters to policy makers, educational brochures, posters, videos, etc.	x	x

Reflect on work and attitudes about project and make a plan for project improvement and continuation	x	
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Step One: Purpose of Assessment We assess students for many reasons; therefore, determining the purpose of assessment is fundamental to the process (**Table 3-2**). How will the results be used? Most purposes fit into two general categories. If the purpose is *achievement*, we focus on outcomes or products of student learning to determine student grades, placement in a special program or to monitor progress. If the purpose of assessment is *diagnosis and improvement*, we focus on process and outcomes and use the results to look at students' strengths and weaknesses, identify appropriate instructional programs, or identify the types of learning strategies students use.

Table 3-2: The Purposes of Assessment

Purposes of Assessment					
Achievement			Diagnosis and Improvement		
Outcomes/Products of Student Learning			Process and Outcomes		
<i>Grades</i>	<i>Placement</i>	<i>Monitor Progress</i>	<i>Strengths & Weaknesses</i>	<i>Prescribing Appropriate Programs</i>	<i>Identifying Student Strategies</i>

Identifying the purpose of assessment is important because it determines how students will be assessed; the types of tasks they will be asked to perform; and how their performance will be rated. That purpose should be linked to the *instructional goals* (what students are taught and expected to learn) and *outcomes* (what they have actually learned). The assessment measures how well students have met the instructional goals. The purpose and instructional goals together provide the information necessary for selecting and scoring the assessment task.

In our example, assessment in the Neighborhood Clean-Up Project was conducted for achievement purposes since students earned partial credit toward a class grade. Students could earn up to 15 points for creating a graph and 10 points for writing a letter to the President of the United States and the Mayor of the District of Columbia.

However, the Neighborhood Clean Up provided a number of other opportunities for assessing students. Some of these could have focused on improvement (i.e., assessing student strengths and weaknesses or identifying strategies for improving student performance). For example, students could have been assessed on their strengths and weaknesses in drafting their final letter. Students were given an outline listing the criteria for drafting the letter. In the outline, students were to identify themselves; describe what they did; ask what the President could do about the problem; and suggest what they felt could be done. The teacher also provided the students with a template for the letter, indicating where to place the name and address of the sender; name and address of the addressee; proper salutation; and closing. A checklist showing which elements of the letter had been completed would have given the teacher information on the help individual students might require to finish the

final product. In other words, phases of the letter writing exercise could have been assessed both for achievement and diagnosis/improvement.

Step Two: Identify Primary Instructional Goals

Specifying instructional goals in advance is critical to the assessment planning process. Knowing what students should be able to do at the end of a class activity, course unit, or course makes the process not only useful but also fair to students (Herman, Aschbacher & Winters, 1992).

The Neighborhood Clean-Up Project linked instructional goals, expected learning activities, and assessment strategies (Table 3-3).

Table 3-3: Learning Goals and Activities Aligned with Assessment.

Neighborhood Clean Up Plan		
Goals	Activities	Assessment
Understand the effects of waste on the environment and the community.	Determine how much waste accumulates in the community over a period of time	Check for Accuracy*
Relate math to a community issue.	Compare the amount of waste on different neighborhood blocks	Rubric for Graphs**
Present and compare statistical information using graphs and ratios	Create various graphs, ratios, and comparisons and be able to explain what they mean.	Assess quality and accuracy of letters, brochures, and other final projects
	Communicate what has been learned in one of many ways such as letter writing, educational brochures, posters, and videos	

* The teacher observed teachers conducting "spot checks" to see how students were completing the task.

** Based on the teacher interview, students could get up to 15 points in their graphing task and up to 10 points for the letter to the Mayor and the President. The scoring included five points for each of the following criteria: accuracy, completeness and neatness.

Step Three: Determine Priority Outcomes

Determining priority outcomes is another step in the planning process that should be addressed. By narrowing down what students are expected to learn, the task of designing the assessment of that learning becomes more manageable. Herman, Aschbacher and Winters (1992) suggest asking five questions to determine the knowledge and skills you want your students to learn:

1. What important cognitive skills do I want my students to develop?
2. What social and affective skills do I want my students to develop?
3. What metacognitive skills do I want my students to develop?
4. What types of problems do I want them to be able to solve?
5. What concepts and principles do I want my students to be able to apply?

An adaptation of these questions along with an example to illustrate each are listed in Table 3-4.

Table 3-4: Questions to Help Determine Outcomes, with Sample Answers

Questions to Ask on Priority Outcomes	
Question	Illustration
What important cognitive skills do I want my students to develop?	<i>Use algebra to solve everyday problems</i>
What social and affective skills do I want my students to develop?	<i>Develop teamwork skills</i>
What metacognitive skills do I want my students to develop?	<i>Learn problem-solving strategies</i>
What types of problems do I want them to be able to solve?	<i>Use research skills to raise awareness about a community problem</i>
What concepts and principles do I want my students to be able to apply?	<i>Describe and discuss the effects of waste on the environment and the community</i>

The Neighborhood Clean Up priority outcomes were linked to the project goals. Cognitive skills were addressed by the use of Algebra to solve a neighborhood problem. Students worked in teams to collect litter in the surrounding neighborhood, giving them an opportunity to develop social and affective skills. By engaging in problem-solving (creating a graph and writing a letter to public officials), students were developing metacognitive skills. Students presented and compared statistical information using graphs to raise awareness about a neighborhood problem. Finally, students used math to gain a better understanding of the effects of waste in the environment and the community.

Step Four: Select Assessment Tasks An important next step to the planning process is selecting assessment tasks. Herman, Aschbacher & Winters (1992) suggest that an assessment task should:

- match specific instructional intentions
- represent content and skills expected of students
- enable students to demonstrate their progress and capabilities
- be authentic, real-world
- be interdisciplinary in approach
- measure several goals

Table 3-5 summarizes these assessment features with examples from the Neighborhood Clean Up Project. In the examples, we look at the two products planned in the project (graph and letter). Items in parentheses () indicate features that were not stated explicitly in the plan, but which could have been pursued in a more interdisciplinary approach.

Table 3-5: Assessment Tasks for Neighborhood Clean Up Project

Selecting Assessment Tasks		
Features	Neighborhood Clean-Up Examples	
	Graph	Letter
Matches Specific Instructional Intentions	Use models, equations, and graphs to solve problems and to describe and analyze relationships among variables	(Expository writing)
Represents Content and Skills Expected of Students	Mathematics: Analysis and graphing skills	(English Language Arts)
Enables Students to Demonstrate Their Progress and Capabilities	(Could have used drafts of a variety of graphs and submitted to others for feedback)	(Drafts of letter could be reviewed through writer's workshop and peer editing)
Authentic, Real-world	Summarized numerical data gathered in the community	Writing to inform public officials about research findings and concerns
Interdisciplinary in Approach	(Could have asked students to write about their graphing process or to analyze the societal implications of the data)	Integrates Mathematics & Language Arts
Measures Several Goals	(Students could design a study on neighborhood trash that would apply the scientific method. This would add to the problem solving aspects of project.)	(By extending the study to analyze the political and economic implications of the data, a wider variety of goals could be met.)

In the Neighborhood Clean Up, we found that the two tasks included most of these features. Creating graphs demonstrated the use of mathematical skills and was appropriate for the content area being taught. Drafting letters to public officials provided another way for students to demonstrate their understanding of the community problem. The tasks were consistent with the instructional intentions. The tasks also were appropriate for the content and skills expected of the students (math skills and written communication). The tasks were designed to allow students to demonstrate their capabilities; however, the teacher could have included more tasks designed to show student progress. The tasks were also authentic (i.e., aimed at a real audience) and gave students an opportunity to address a community issue.

The letter writing task was interdisciplinary in that it allowed students to apply their math skills and explain the nature of the neighborhood problem to public officials using writing skills. The writing task could have gone further if the assignment had been planned by teachers in both disciplines. If this had occurred, the writing task could have emphasized a specific writing skill such as narrative, expository or persuasive writing. Thus the task would have measured more than one goal, applying a mathematical concept and communicating to public officials, in writing, the need for the Neighborhood Clean Up and how it was done.

Step Five: Describe the Assessment Task Once learning goals and priority outcomes are identified, the next step is to describe the assessment task. This is very important because students,

their parents, and others should know what students are being asked to produce. To help guide this process, we include a checklist describing the major steps in **Table 3-6** (from Herman, Aschbacher & Winters, 1992:42). The first column describes the major steps; the second column provides more specific information to consider for each step. It is important to be specific about each of these steps. The assessment task should also take into account how best to assess the content, whether it is language arts, mathematics, science or social studies; how that content has been taught; and how students are expected to perform the task (i.e. in writing or orally).

Table 3-6: Generic Task Description Checklist

Task Description Checklist	
Outcomes to Be Measured	Description of instructional goals Content/Topics Rules/Process for selection
Assessment Administration Process	Group/individual Materials/Equipment Administration instructions Help allowed Time allowed
Actual Question/Problem/Prompt	Format Audience Options available Student directions
Scoring	Rubric/Criteria Scoring Procedures Use of Scores

The Neighborhood Clean Up plan included outcomes to be measured ("Goals"), and tasks to be completed ("Activities"). Students were assessed individually on their performance of the tasks that were assigned. A statement of the scoring (i.e. criteria) was included in the plan; however, the scoring procedures and use of scores were not mentioned in the plan. We learned about them during our interview with the teacher. **Table 3-7** illustrates how the Neighborhood Clean Up Project information could be represented using the task description checklist in **Table 3-6**.

Table 3-7: Neighborhood Clean Up Example

Neighborhood Clean Up Task Description Checklist	
Outcomes to Be Measured	<p>Understand the effects of waste on the environment and the community.</p> <p>Relate math to a community issue.</p> <p>Present and compare statistical information using graphs and ratios.</p>
Assessment Administration Process	<p>Student performance will be assessed individually on creating a graph and writing a letter to public officials about the Neighborhood Clean Up.</p>
Actual Question/ Problem/ Prompt	<p>Determine how much waste accumulates in the community over a period of time.</p> <p>Compare the amount of waste on different neighborhood blocks.</p> <p>Create various graphs, ratios, and comparisons and be able to explain what they mean.</p> <p>Communicate what has been learned in one of many ways such as letter writing, educational brochures, posters, and videos.</p>
Scoring	<p>Students will create a graph and write a letter to public officials. Students will be graded on the accuracy, completeness and neatness of the graph and the letter. Students can earn a maximum of 25 points for the project (15 points for the graph and 10 points for the letter).</p>

Step Six: Set Criteria and Scoring Procedures

The final step in the planning process is to develop criteria to score student work. Alternative assessment literature often discusses the scoring guide or rubric. Herman, Achbacher & Winters (1992) suggest four elements for a rubric, including one or more traits or dimensions, a description of expected performance for each dimension, a rating scale, and standards for judging performance. **Figure 3-2** lists questions to consider in describing dimensions or criteria for judging student work.

Questions for Dimensions
<p>What are the attributes of good writing, of good scientific thinking, of good collaborative good process, of effective oral presentation? More generally, by what qualities or features will I know whether the students have produced an excellent response to my assessment task?</p> <p>How does completing this task relate to my goals for students? What will they do that shows me we are working toward or achieving some of these goals?</p> <p>What do I expect to see if this task is done excellently, acceptably, poorly?</p> <p>Do I have samples or models of student work, from my class or other sources, that exemplify some of the criteria I might use in judging this task?</p> <p>What criteria for this or similar tasks exist in my state curriculum frameworks, my state assessment program, my district curriculum guides, my school assessment program?</p> <p>What dimensions might I adapt from work done by national curriculum councils, by other teachers?</p> <p style="text-align: right;">Source: Herman, Aschbacher & Winters (1992:58)</p>

Figure 3-2: Questions to consider when describing dimensions (criteria) for judging student work.

The dimensions are linked to a rating scale. There are different types of scales that describe a level of performance using numbers (numerical), word descriptions or labels (qualitative), or a combination of both (numerical-qualitative). A numerical scale lists the criteria that correspond to a number; for example, 1 to 4 in a four-point scale from lowest to highest level of performance. Grades are a typical example of a qualitative scale.

Finally, the dimensions and rating scales are linked to standards, expected levels of performance. The standards can be criterion-referenced or norm-referenced in their approach (Herman, Aschbacher, Winters, 1992). The criterion-referenced approach gives clear descriptions of a range of performance levels from mastery to inadequate performance. A norm-referenced approach would assign grades or points by comparing the best work of a student in a class to examples of average student work.

In the Neighborhood Clean Up Project, the rubric mentioned in the plan was composed of dimensions or criteria (accuracy, completeness and neatness). No explicit scale listing the performance levels either numerically or qualitatively was provided. Instead, points were assigned for each dimension (ranging from 5-1). A numerical rating scale would have given descriptions for each performance level on the criterion of accuracy that described the range between accurate (5) and inaccurate (1). Spelling out the performance levels would have provided a criterion-referenced approach in a rubric using a numerical scale.

Summary The framework that was used in the Neighborhood Clean Up Project included many of the elements of the six-step process described above. There were differences in terminology in some cases. The six-step process, however, offers a set of tools to plan assessments that can be applied to other service-learning initiatives and can help to strengthen assessment of students for purposes of achievement or diagnosis and improvement discussed earlier. In the next section, we focus on aligning standards and classroom assessments, and we look at another service-learning project, Alcohol in the Community, included in our case study.

Section B: Developing a Standards-Driven Assessment Plan

In the previous section, we looked at a general approach to assessment planning. In this section, we introduce a standards-driven approach for assessment that focuses on diagnosing student strengths and weaknesses, and developing strategies for improvement by looking at student work. We will use the second service-learning project, Alcohol in the Community, to illustrate this process. **Figure 3-3** describes the Alcohol in the Community project. **Table 3-8** shows the associated learning activities.

Alcohol in the Community

Believing that understanding their community is an important first step to changing it, ninth-grade students at Banneker Senior High School conducted an assessment of the city. Students were assigned neighborhoods throughout the city. They then recorded the number of retail outlets serving and advertising alcohol. They also counted and described the various community resources — community and recreation centers, libraries, places of worship, medical facilities, etc.

Back at school, students tabulated and analyzed their findings, presenting the data in graphs. They also created a master graph, showing the disparity in distribution of resources and availability of alcohol. According to the original plan, students were going to advocate for zoning changes (limiting the availability of alcohol in some neighborhoods) and a more equal distribution of community resources. Unfortunately, this did not happen. Students, however, did reflect upon their findings. Many were surprised or outraged to find such disparity and speculated about the impact this has on the quality of life in the city.

Figure 3-3: Description of the “Alcohol in the Community” project.

Table 3-8: Activities Planned for Alcohol in the Community

Alcohol in the Community Planned Activities		
Description of Activities	In Classroom	Out of Classroom
Introduce Alcohol Project.	x	
Speaker addresses issues of alcoholism affecting individuals and communities.	x	
Research and collect data in various communities.		x
Do mathematical data analysis and comparison of number of liquor stores in different communities and create graphs.	x	
Discuss findings and determine possible steps that the students might take to help with problems of alcohol and alcoholism	x	
Work on final projects, including letters to policy makers, educational brochures, posters, videos.	x	x
Reflect on work and attitudes about project and make a plan for project improvement or continuation.	x	

We believe a standards-driven assessment plan should be a road map that details for students what they are expected to know and do (i.e., standards). It should also serve as a tool for teachers to plan the type of instruction students will need to achieve those standards. Assessment results can be used to inform students of their strengths and weaknesses and to help teachers modify instruction where appropriate and necessary. Linking assessment to instruction benefits both teachers and students, by providing timely information that can be used to improve teaching and learning in the context of a service-learning project.

An important characteristic of a standards-driven approach is to align assessment with standards and instruction. Mitchell (1996) offers a practical approach for assessing student work on an ongoing basis in a standards-driven system. Under this model, classroom instruction is

closely linked to both content standards (what students should know and be able to do) and levels of performance. The process uses a team approach to assess student work, in which teachers work across disciplines to improve teaching and learning. Mitchell (1996:29) explains one of several reasons for considering this approach:

The process of looking at student work depends on standards against which the work is measured. It involves intense discussion comparing the work and the standards...

Looking at student work is an amazingly economical way to promote understanding of what is being taught and learned. It could be used for acquainting school board members or a group of parents or community representatives with student work and the information that work provides about the health of the educational process in the school.

The process developed by Mitchell focuses on looking at student work. **Figure 3-4** summarizes the process.

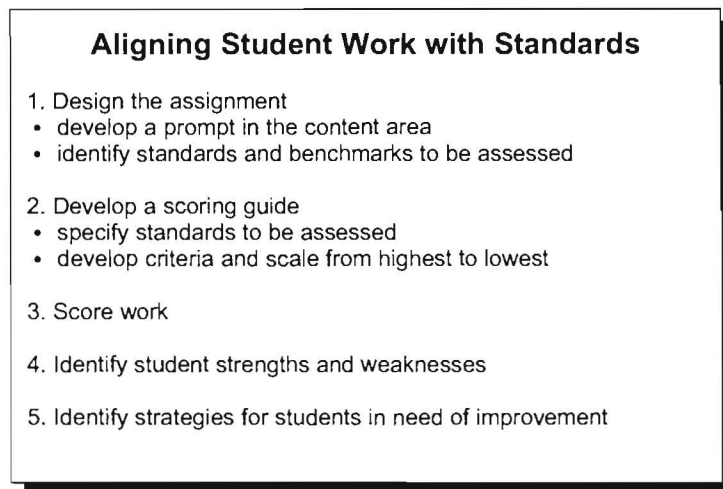


Figure 3-4: *Summary of steps to align student work with standards.*

In this process, the purpose of assessment is to inform instruction by looking at the strengths and weakness of students. In order to apply this process well, teachers must know the district's content standards and benchmarks, as well as have experience designing tasks and developing scoring guides or adapting them to their specific classroom needs.

Designing the Assignment According to Mitchell, there are two elements to consider in the design of an assignment. First a prompt (i.e. question or description of a problem to be solved) must be developed in the content area to be assessed. Second, the benchmarks and standards to be assessed must be identified. To illustrate, we use the Alcohol in the Community project. **Table 3-8** shows a summary of the project's activities and examples of planned assignments.

The design and goals of the Alcohol in the Community project were similar to those of the Neighborhood Clean-Up discussed previously. Alcohol in the Community identified the following goals:

1. Understand the effects of alcoholism on the individual and the community;
2. Relate math to a community issue; and
3. Present and compare statistical information using graphs and ratios.

In developing the plan for the entire project, the classroom teacher used the eighth grade benchmarks for the District of Columbia Public Schools which were in draft form in 1997. These are presented in **Figure 3-5**.

**District of Columbia Public Schools
Mathematics Benchmarks (Draft, 1997)**

Algebraic Concepts and Operations, Patterns, Relationships and Functions

Each student uses models, equations, and graphs to solve problems and to describe and analyze relationships among variables

End of grade 8

Each student:

- describes, represents, and extends number patterns with tables, graphs, and rules
- analyzes functions to explain how a change in one quantity results in a change in another quantity
- demonstrates an understanding of the concept of variable as used in expressions and equations
- develops equations and inequalities to represent problem situations
- solves linear equations using concrete, informal, and formal methods

Figure 3-5: *Mathematics benchmarks that apply to the Alcohol in the Community project.*

Initially, students were assigned to research and collect information in neighborhoods in the three quadrants of the city. Students were given a data collection tool to record their findings (**Figure 3-6**).

Community Inventory

Name: _____

Neighborhood Surveyed: _____

Date and Time of Survey: _____

Count and record each of the following observed in the survey area:

ALCOHOL AND TOBACCO INFLUENCES: TALLY _____ TOTAL _____

Alcohol Outlets:

Bars

Liquor Stores

Convenience Stores (that sell alcohol)

Stores with more than 50% advertising
for alcohol and tobacco

Billboards or other public advertisements
for alcohol products

COMMUNITY RESOURCES: TALLY _____ TOTAL _____

Stores, playgrounds and sports fields

Public trash cans

Health care facilities

Churches

Figure 3-6: *Community Inventory data collection tool students used to study prevalence of alcohol in the community.*

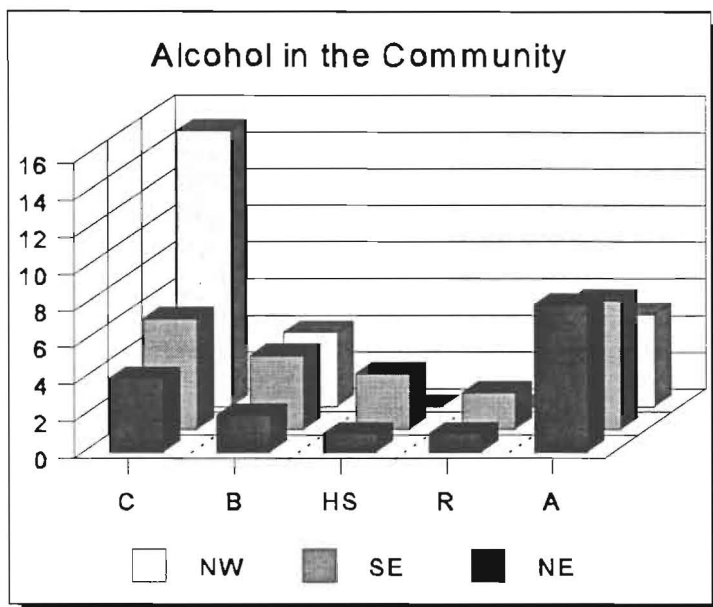


Figure 3-7: Combined results of three individual bar graphs created by students from their collected data.

Students were asked to do a mathematical data analysis and comparison of the number of liquor stores in different communities and to create graphs. For ease of reading, we reproduced student findings in a new format that summarizes the three individual bar graphs the students created. These are presented in **Figure 3-7** and describe (C=Churches, B=Bars, HS=Human Services, R=Recreation services and A=Advertisements) in the three quadrants of the city surveyed by the students.

Students were also asked to respond to three prompts to help them reflect on their work and attitudes about project and make a plan for project improvement or continuation. **Figure 3-8** shows a sample of student responses to the Project Questions.

Sample Student Responses to Project Questions

What do you think was the purpose of this project?

I think the purpose of this project was to get more involved with my neighborhood in a mathematical way by using problems or dilemmas our neighborhoods are faced with.

Would you do this if it weren't required of you?

Now that I have experienced this project, yes, I would do it again because I have really started to care about my surrounding neighborhood.

What did your sheets/stats tell you?

My statistics that I recorded showed me that there are a lot of contributors of drugs and alcohol in my neighborhood.

Figure 3-8: Sample responses to reflection prompts.

Figures 3-6 through 3-8 illustrate the types of assignments featured in the Alcohol in the Community project. Students were also asked to write a letter to policymakers, as they did for the Neighborhood Clean Up Project. Samples of these letters were unavailable for inclusion in the case study.

In developing sound assessments, care should be given to developing challenging assignments or performance tasks. Mitchell (1997) offers suggestions for creating assignments and has outlined some key features. These are summarized in **Figure 3-9**.

Characteristics of Good Tasks for Standards-Based Learning

- Focuses on applying an important concept and essential skills
- Aligns with at least one standard
- Has a real-life application
- Demands high-level thinking skills (analysis, synthesis, evaluation)
- Culminates in a product that can be scored (e.g, written report, essay, letter, graph, chart, table; speech or multi-media presentation; instruction for a specific audience; a three-dimensional model).
- Allows for multiple kinds of communication
- Requires more than a simple right/wrong answer

Figure 3-9: *Summary of characteristics for standards-based learning tasks.*

Reviewing the assignments planned for Alcohol in the Community, we note that several of these characteristics were included in the tasks. All three assignments for which we have examples of student work applied an important concept or essential skill; one was aligned to a standard; all three had a real-life application; two focused on high-level thinking skills; each culminated in a product that could be scored; and one required more than a simple right/wrong answer. Although each task did not allow for multiple kinds of communication, together the tasks did allow students to impart information differently.

Figure 3-10 shows an example assignment adapting information from the project to illustrate how one of the assignments could have been described using Mitchell's approach.

Sample Alcohol in the Community Assignment

The following Eighth Grade Benchmarks describe skills you have been taught and are expected to know:

- 1) describe, represent, and extend number patterns with tables, graphs, and rules
- 2) solve linear equations using concrete, informal, and formal methods

Prompt:

Calculate how many liquor stores and liquor ads were in your assigned neighborhood and compare that number to the number of community resources you found. Summarize your findings in writing and also by using a bar graph. Your performance will be rated with a scoring guide that details criteria for quality work.

Figure 3-10: *Sample assignment aligned with standards.*

Developing a Scoring Guide Mitchell (1996) offers some straightforward guidelines for creating a four-point scoring guide. She suggests that when an assignment or assessment task is developed, it should include no more than two standards and benchmarks (i.e., performance descriptions that indicates achievement of a standard) and the scoring guide should include the knowledge and skills reflected in those standards along with a scale. The scoring guide should show what different performances look like. Understanding what good or not very good work looks like comes from looking at student work systematically and defining levels of quality that both teachers and students agree on and understand. **Figure 3-13** summarizes guidelines for developing a scoring guide with a numerical scoring scale using a criterion-referenced approach.

Guidelines for Making a Scoring Guide

Use the language of the standards to develop the statements of the scoring guide.

Begin with four (4) the highest score. Write down the features of an excellent response to the assignment.

Then go to three (3) the next-highest score and follow the same procedure. Describe the features of a response that is pretty good but not brilliant.

Next go to two (2) the next-to-the-lowest score and follow the same procedure. Write the features of an answer that hasn't got it, that needs additional teaching.

Finally, one (1) is the lowest score. Decide on the features of an answer that hasn't a clue.

Adapted from Mitchell (1996:34-35)

Figure 3-11: *Guidelines for creating a rubric or scoring guide.*

According to Mitchell (1996), it is important to make a clear distinction between the pairs of higher and lower scores if a four-point scale is used. For example, scores of 4 and 3 indicate an acceptable understanding of the assignment. A score of 3 demonstrates a good understanding showing minor errors while 4 is an excellent response with no errors. Scores of 2 and 1 would be used if there is little or no understanding of the assignment. A score of 2, for example, means the concept or skill needs more instruction while a score of 1 shows that the concept will have to be introduced all over again.

Alcohol in the Community used the same method for evaluating the graph that was used in the Neighborhood Clean Up Project. As explained earlier, although the term rubric was used, the assessment did not specify criteria for performance levels or a rating scale. Although students were required to use the community inventory tool to gather data, as well as to respond to project questions, these tasks were not assessed. **Table 3-9** gives an example of a scoring guide that incorporates the benchmarks in criteria for expected student performance and a four-point rating scale that adapts the guidelines suggested by Mitchell for the Alcohol in the Community graph.

Table 3-9: Sample Scoring Guide Incorporating Benchmarks for Criteria

Sample Scoring Guide for Graph Exercise	
4	computations are correct accurately displays the required information in a graph work is clear and understandable
3	computations are correct except for minor errors accurately displays most of the required information in a graph work is neatly organized
2	some computations have major errors displays some of the required information in a graph work is difficult to read
1	computations are incorrect displays unrelated information in a graph work is not presentable

Scoring Work The next step in the process is to score actual student work, which in this case would include a bar graph. Based on their performance on the criteria, students will receive a numerical rating. Scores of 2 or lower indicate that students have not met the standard and will require additional help. This is a time for the teacher to reflect on the instruction they provided these students and to consider ways to alter their instruction. These students can later be re-assessed.

Identifying Student Strengths and Weaknesses

Assessing students to identify their strengths and weaknesses is a useful way to see where students are in meeting standards. If classroom assignments and scoring guides are linked to those standards, teachers have ongoing information about how well students are progressing

toward those goals. The systematic collection of this evidence provides additional measures of student performance.

Identifying Strategies for Student Improvement

Authentic assessments should be used to inform instruction. What sorts of strategies are needed to improve student work? Here are some suggested strategies (drawing from the Alcohol in the Community example):

- Students can improve public speaking by giving presentations to neighborhood advisory commissions regarding the availability of alcohol and distribution of community resources and how they affect the quality of life in the community.
- Students can improve their research skills by investigating the number of alcohol-related crimes and accidents in their neighborhood.
- Students can apply the scientific method to investigate whether or not a community with a larger number of outlets has a higher incidence of alcohol crimes and related accidents.
- Students can investigate which agencies are responsible for zoning and liquor licenses, and the requirements for issuing licenses, as well as the process for including community in the development of these policies.

Service-learning is an important strategy that can lead to greater student engagement, honing of academic skills, and deeper understanding of community issues.

Summary Aligning student work with standards is an important part of the planning process. Key to this process is designing good assignments that reflect the standards that we want students to achieve. The scoring guide also plays an important role because it describes specifically what we want students to be able to do and assigns performance levels that tell us what each level means through the use of a rating scale. Together they provide helpful tools for both teachers and students to identify and address strengths and weaknesses. Other tools can be adapted to assess student learning through service. Some of these are discussed in our conclusion and are presented elsewhere in this guide.

Part III: Conclusion

The Neighborhood Clean-Up and Alcohol in the Community projects provided an excellent opportunity for students to apply their mathematics skills to an authentic community problem. There were a number of opportunities to assess student work. In this chapter, we wanted to provide a road map for planning assessments. We borrowed heavily from

Herman, Aschbacher and Winters, 1992 and Mitchell (1996) for tools to help in the planning process and in the design of alternative assessments, and we applied these to the service-learning initiatives in our case study. The tools are generic in nature and can be adapted easily to assess students who are involved in service-learning as an educational strategy.

After reflection on this process, the Study Group generated a number of recommendations for extending and enhancing the projects in the case study:

1. Include students in the project selection and planning process.
2. Invite the community to be active members of the service initiative. Activities such as identifying community resources could include a member of an existing organization such as the PTA, the local restructuring team, or a business advisory council.
3. Include the Clean Up as part of a larger, ongoing community project or campaign to improve city services.
4. Seek opportunities for cross-disciplinary planning wherever possible, linking them to other curricular areas such as Civics, State and Local Government, English, and Business Skills. The data generated by these projects raise a wide variety of issues that could be analyzed using the tools of these disciplines.
5. Use the assessment planning model at the beginning of a unit to help guide selection of activities and design of assessment strategies.

Other opportunities for assessing students could also be put to use. For example:

1. *Teacher observation* could be used to determine how well students master the skills needed for the project.
2. A *rubric* is an excellent way to evaluate student products. Delineating criteria for numerical scales can help clarify expectations for students.
3. Students could use a *checklist* to self-assess their progress in planning the clean up.
4. A *Journal* or *Learning Log* could be used as a self-assessment tool. Journals also provide a way for students to reflect upon their learning and develop metacognitive skills.
5. Students could produce a variety of evidence that demonstrates their knowledge and skills. In addition to graphs, students might explain in writing why they chose a particular type of graph. Students might also discuss problems they confronted in their work on this project and how they addressed these. Gathering a

wider variety of evidence allows for a more valid and reliable picture of student learning.

In summary, these and other tools and strategies could be used to assess how well students have mastered content standards and skills and to inform classroom instruction. Using the planning model described, educators can integrate standards, classroom practice, and assessment strategies, and take advantage of the wide array of instructional opportunities service-learning offers.

We believe that many educators are in a position similar to this teacher — trying to use an instructional strategy (service-learning) to help students succeed (meet academic standards) and then using assessment to show their progress and achievement. We believe that each time a teacher explores these new practices, he or she improves. Teachers can also learn from the experiences of their peers, as we hope you have learned from our exploration of assessment in this chapter.

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4

USING RUBRICS TO ASSESS LEARNING THROUGH SERVICE IN MAINE

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Abstract: Maine's study group provides an array of rubrics for assessing student learning through their service work. After struggling with the many questions surrounding assessment and service-learning, these educators chose to focus on creating and collecting rubrics that could apply to the products that result from service-learning and are common to many different projects. For example, there are rubrics for oral presentations, research, portfolios, and posters. By looking at work produced in the act of providing service as well as on-demand tasks, the Maine study group helps demonstrate how teachers can "score" the performance of students' work through service.

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State Context

Despite its large geographical size, Maine's public school system is characterized by its tight knit nature. Teachers around the state know each other, there are generally positive feelings about the state Department of Education, and people work together to provide quality educational opportunities for Maine's students. The state adopted its Learning Results in 1997, articulating overarching guiding principles (e.g., to develop students who are creative and practical problem solvers, responsible and involved citizens, collaborative quality workers, etc.), and standards and performance indicators in eight content areas (Career Preparation, English Language Arts, Health and Physical Education, Mathematics, Modern and Classical Languages, Science and Technology, Social Studies, and Visual and Performing Arts) that specify what students should know and be able to do when they graduate from high school. The Learning Results are measured by the Maine Educational Assessment, a test that looks at both content and process outcomes. It is also left to local school districts to "develop additional assessments to measure achievement of the learning results, including student portfolios, performances, demonstrations, and other records of achievement."¹

Coming from all over the state, members of the Maine study group met for five full days over three years to engage in a collaborative learning process around issues of assessment of learning through service. In contact with each other through other networks in addition to the state study group, they were able to focus their work on a particular need they had identified — to collect rubrics to help teachers give feedback and grades on learning through service.



Students working with local architect and contractor to build amphitheater stage.

¹From Maine's Learning Results Statute, July 1997.

USING RUBRICS TO ASSESS LEARNING THROUGH SERVICE IN MAINE

Introduction

Clam flats are re-opened in the seaside town of Wells after being closed for nine years. Ten thousand copies of a brochure for a historical walking tour of downtown Bath are flying off the shelves of the chamber of commerce and local lodging establishments. Forty acres of littered and neglected wilderness in Auburn is transformed into a recreation area with a paved walkway, mountain biking trails, landscaping improvements, and comforts like benches and lookouts. A proud all-weather sign embraced by a stone garden and flowers welcomes students, staff, parents, and visitors to Lewiston Middle School. Are these products the work of historians, landscape architects, engineers, graphic artists, scientists, carpenters, or politicians? No, these are the products of elementary, middle, and high school students across the State of Maine, doing the work of adult professionals in the real world.

Many of these products were generated through a student-driven model of service-learning known as KIDS as Planners. KIDS as Planners is an award-winning model created by the KIDS Consortium that challenges students to identify, research, design, and implement solutions to real-life problems in their schools and communities. For over ten years, the Consortium has worked with school districts in all six New England states to train teachers and to facilitate partnerships among schools, local government, businesses, and community-based agencies. Impressed by the planning process used by students to generate valued products in their communities, the American Planning Association selected KIDS as Planners as the winner of the 1996 National Planning Award for Public Education.

As the KIDS Consortium was expanding its network to 20,000 students and 450 teachers in 20 school districts across New England, we realized the stories of teachers and students themselves were our best resource for building capacity at the local level. Unfortunately, their good practices — tools, processes, products — were largely undocumented and rarely shared. In an era of academic standards, we became increasingly concerned with how KIDS measured up as an instructional pedagogy against other strategies. If we were going to meet our capacity-building goals, we had to know, indeed to prove, that through the KIDS model, students were learning what they were supposed to be learning — and getting more “bang for the buck.”

We investigated a number of ways to measure what students were learning — comparing student scores on the Maine Educational Assessment from classrooms participating in KIDS with nonparticipating classrooms; conducting pre- and post-tests of knowledge and skills on participating students; examining the impact of KIDS on students’ aspirations over time by following their educational careers via improved grades and advanced course work taken; constructing ethnographic case

studies of classroom projects. But these strategies would not only have required extensive time and money, they would have forced us to exercise unwanted control over the classroom learning environment.

We also clung to the belief that since the products students generated looked so professional, the students *had to be learning*. We hoped to find a way for teachers, students and communities to learn what those products could tell us about student learning.

The research on authentic achievement emerged as a powerful force to help clarify our approach to the assessment of work produced through service. In 1995, Fred Newmann and Gary Wehlage from the Center on the Organization and Restructuring of Schools released *Successful School Restructuring*, a ground-breaking study on the degree to which schools in the forefront of restructuring were teaching students “to use their minds well — rigorously and creatively” (7). They based their definition of authentic achievement on standards that would also define significant adult accomplishments, such as those of artists, designers, journalists, engineers, and scientists:

“Adults in diverse fields...construct knowledge through disciplined inquiry that uses knowledge, skills, and technology. They express the results of this disciplined inquiry in written, symbolic, and oral discourse, by making things (products such as furniture, bridges, videos, or sculpture), and in performances (musical, dramatic, or athletic)...which have value beyond success in school; that is, they have aesthetic, utilitarian, or personal value to the persons constructing them and to others in the society.” (8)

We thought this definition precisely described the KIDS model of service-learning (see **Table 4-1**). Newmann and Wehlage sought to determine to what extent students in restructuring schools were learning and performing at this level and whether there was a correlation between authentic achievement and higher scores on standardized measures of achievement (they discovered there was).

But unlike most authentic assessment tasks, solving a real problem in the community results in a process that is uncontrived, uncontrolled, and unstructured; in other words, messy. Indeed, even Newmann and Wehlage did not look at the extent to which the products and performances generated by students in restructuring classrooms had “value beyond school.” “It was impractical for us to collect information on the value of student performances...it would have required interviews, surveys, or other ways of assessing the actual impact of students’ work. We simply did not have the resources and opportunity to do this.” (11)

It is this last criterion, of course, “value beyond school”, that puts the service in service-learning. It is also the criterion that transforms a simulation or hands-on learning activity into service-learning. Assessing whether a product or performance meets a real need or provides a service would demand consulting its users or consumers (e.g., historical society, conservation commission, senior citizens). Thus, solving a real problem for a real audience becomes the singular element that makes assessing

Table 4-1: KIDS as Planners and Authentic Assessment

Authentic Assessment Tasks (Newmann & Wehlage, p. 14)	KIDS as Planners Framework for Action (KIDS Consortium, 1996)
<p><u>Construction of Knowledge</u></p> <p>Organization of Information: Students are asked to organize, synthesize, interpret, explain, or evaluate complex information in addressing a concept, problem, or issue.</p> <p>Consideration of Alternatives: Students are asked to consider alternative solutions, strategies, perspectives, or points of view in addressing a concept, problem, or issue.</p> <p><u>Disciplined Inquiry</u></p> <p>Content: Students are asked to show understandings and/or use ideas, theories, or perspectives considered central to an academic or professional discipline.</p> <p>Process: Students are asked to use methods of inquiry, research, or communication characteristic of an academic or professional discipline.</p> <p>Elaborated Written Communication: Students are asked to elaborate on their understandings, explanations, or conclusions through extended writing.</p> <p><u>Value Beyond School</u></p> <p>Problem: Students are asked to address a concept, problem or issue that is similar to one that they have encountered or are likely to encounter in life beyond the classroom.</p> <p>Audience: Students are asked to communicate their knowledge, present a product or performance or take some action for an audience beyond the teacher, classroom, and school building.</p>	<p>Discovery: Students take ownership of a problem or issue affecting the school, neighborhood, or town. Students might generate ideas from a variety of sources — needs assessment, neighborhood walk, newspaper headlines, community leaders, public and nonprofit agencies.</p> <p>Research: Students research and collect information about the problem or issue in a variety of ways — by studying its different dimensions, such as historical or environmental, by accessing primary sources, such as local residents or professionals, and by using various information-gathering techniques, such as the telephone, letter-writing, Internet, and library.</p> <p>Goals: Students establish goals to address the problem or issue, including the project purpose and products, services, and actions that might be conducted over the short- and long-term. People, action steps, time and resources are organized and appropriated accordingly.</p> <p>Alternatives: Students consider alternatives and design a solution, making decisions based on cost, feasibility, aesthetics, and other community values and communicating their proposed solutions to school and community leaders and boards.</p> <p>Action: Students take action to implement their solution. The “solution” might be a product, a service, or an action that is need by a user group and valued by the community.</p> <p>Stewardship: Students become stewards of their vision by taking responsibility for making a good idea or an “old” idea happen and by sharing their knowledge and skills with others.</p>

the intellectual quality of student-generated products and performances so difficult and challenging — because the addition of a real audience has the potential to drive what needs to be learned and what is learned. We heard repeatedly of such challenges described as obstacles to assessing student work from teachers in our network:

“Some of my kids are doing a little of this and some a little of that.” Students might engage in different tasks related to the project, e.g., writing, surveying, or research, or they might develop expertise in different aspects of the project, such as sign design or

municipal codes.

"I don't know what the students' product is supposed to look like." There might be no previous benchmarks by which to compare the "good stuff" kids are producing (e.g., master plans, oral histories, videos, nature trails), especially the quality expected at particular grade levels.

"We want the kids to be in charge." Because students are the planners and designers, teachers are reluctant to determine in advance, for planning purposes, what products will be produced that can be assessed.

"Everybody worked on that thing." A product like a master plan or a history museum is such a big enterprise that it's difficult to go back after it is done to determine the contributions of individual students.

"I don't have time to assess everything kids are learning." Solving a problem requires students to apply content and skills from a number of disciplines, some of which their teachers may not be accountable for teaching.

"I can't give credit for that." Even if everything could be assessed, the structure of middle and high schools may prevent teachers from awarding credit to students in subjects they are not accountable for teaching.

"Everybody loved it! Why grade it?" Service-learning generates such magic among students and the community that teachers are often reluctant to "put a grade" on it.

"Everything keeps changing!" Many projects last longer than a year; standards met through the project may need to change as the project evolves in different stages, e.g., research, design, building, etc.

Rather than deal with these messy issues, many teachers in our network chose to assess student learning in more traditional ways, through paper and pencil tests — or not at all. Unfortunately, in many classrooms, KIDS projects served to enrich the regular curriculum instead of being planned as a unit aligned with standards. This was infinitely easier for teachers. They could still teach in traditional ways — and then make room for a little "KIDS." But that had to change. We knew if KIDS could not be linked as an essential strategy to deliver content for which teachers were accountable, it would not survive.

The nationwide move toward "accountability" was another force emerging to drive our urgency. In May of 1997, the Maine Legislature adopted the Maine Learning Results, articulating standards for what students were expected to know and be able to do upon graduation. We fully believed that the products and performances generated by

service-learning needed to address content standards effectively in order to be endorsed at the local or state level as credible strategies for achieving the learning results. Indeed, all future funding for local school districts would depend on a consolidated application outlining how all parts of the system — mission, curriculum, instruction, assessment, professional development, resources — were aligned with the Learning Results. If service-learning was to succeed, it had to help demonstrate how students achieved the learning results through their service-learning experiences.

Maine's Study Group

Initially, our study group wrestled with what seemed the overwhelming nature of “improving assessment of service-learning.” We realized how much we needed to learn about assessment in general, in addition to all the special issues particular to service-learning. After sifting through a variety of assessment tools we had collected, studying literature on assessment from a variety of sources, and talking with a range of teachers, we realized that many of the products we had examined — although arising from different classrooms, different grade levels, and different projects — had a lot in common. For example, a brochure, a video, and an oral presentation, although unique products, reflected common content standards and could be assessed using a tool that took into consideration such qualities of communication as purpose, organization, language mechanics, detail, and voice. Given this insight, our study group decided to develop a set of rubrics that could be used to assess student products addressing common content standards.

We found it helpful to distinguish three categories of assessment tasks that were being used by teachers across Maine's service-learning network to assess student products and performances (Table 4-2). Some teachers used *on-demand assessment tasks* such as a test or assignment completed by individuals after their service-learning experience to evaluate student learning. While this fit well with more traditional practice, we knew there were products that arose directly in the act of service-learning that could be assessed as well. We identified as *anchor tasks* those assignments that arise in the course of service-learning (e.g., letters to the editor, field notes, interviews) that demonstrate individual command of a particular set of knowledge and skills. The products or performances that reflect the overall learning in a service-learning experience we labeled as *summative assessment tasks*. These include products such as a report for a public agency, a public presentation, or a portfolio that capture the learning for individuals or groups of students and are a direct result of the



An elementary student plants a tree in ELF Woods during a mentoring project.

service-learning experience. No particular type of assessment task seemed more desirable than others for us, but in combination, they serve as a powerful set of tools to capture the many dimensions of student learning — student participation, technical skills, academic standards, and community impact.

Table 4-2: Comparing Three Types of Assessment Tasks

Characteristics of Task	Anchor Task	Summative Assessment Task	On-demand Assessment Task
Student role	Individual	Individual or group	Individual
Time allowed	Fixed period—one day to one week	Long period—up to one semester	Time limitation—one class period
Connection to standards	Content and skills in one discipline	Knowledge and skills across disciplines	Content and skills in one discipline
Connection to instruction	Task linked to specific learning activity	Task linked to learning throughout the unit or project	Task tests students' ability to transfer knowledge and skills learned in project
Options	Products or performances may look different but are assessed according to the same standards	Products or performances may look different but are assessed according to the same standards	Products or performances look the same and are assessed according to the same standards
Audience	Public or classroom	Public	Classroom only
Evaluators	Self, peers, teacher, community member	Panel of teachers, parents, and community members	Teacher
Scoring procedure	Rubric, checklist, conference	Rubric with dimensions to assess different aspects of student performance	Rubric, teacher discretion
Examples	Letter to a public official Graphs, charts, drawings Poster or artifact Interview Field notes Oral presentation	Portfolio Exhibition, with oral, written, and visual elements Report for a public agency Dramatic performance Brochure	Writing task with prompt Simulation Planning exercise Test—open response or multiple choice

Stories from the Field: Service Learning Activities and Rubrics

Following are descriptions of service learning projects and examples of rubrics teachers use to assess some of the learning resulting from this work. As you will see, although the rubrics are designed around a particular type of product or performance, the content learning is often embedded in the rubric as well.

Assessing Math Skills through Architectural Drawings Since 1996, students from Wiscasset High School in Maine have been working to make the Morris Farm, an agricultural education and recreation center, safe and accessible to the public. During the second year of the project, students designed and built a map and brochure display case for the farm. As an assessment task to address mathematical understanding, students produced scale drawings of the display case.

According to Deanna Bailey, Co-Director of the Farm, the task proved to be a seamless connection to curriculum and instruction. An architect visited the class to teach the principles of design. To help them understand the concept of faces, students produced sketches of the farm's hen house. As a class, students discussed what they wanted their display case to look like, including size and incline. Then, Deanna taught students how to apply a ruler to actualize their ideas and to measure and convert to scale.

Students were given a week of in-class time to complete the task, which included drawing the five faces of the case — front, back, bottom, top, and side. During this time, they had access to their teacher, their fellow students, and a variety of community volunteers, including carpenters and construction workers. Each student submitted individual drawings and received an individual grade.

The task demanded that students demonstrate mathematics content standards related to computation skills, geometry, measurement skills, and mathematical reasoning. Each drawing, which had to be accurate and neatly labeled ("the same as any architect") was scored against a checklist that reflected both the Learning Results and "what I thought was most important for them to do within the drawings in order for them to be useful later."

The task not only provided the teacher and students with feedback on their math skills, it was critical to the next stage of the project. "We could not go forward unless they understood what they had done because everything we were going to build was related to those drawings and they needed to be able to use them," Deanna explained. In fact, students had to go back and do some redesign. Then, as a class, students determined the materials they needed to build the display case, including the type, quantity, thickness, and weight of wood.

According to Deanna, the task was more than an excellent measure of math skills. “Students were very engrossed as they were doing it. The kids developed a real strong sense of self-confidence in their ability to conceptualize something in their head, to put it onto paper, and the final step, to build it. They were very proud of their drawings.”

An Analytic Rubric for Assessing Oral Presentations

During their junior year at Orono High School in Maine, every student designs and implements an action plan for a 30-hour service-learning project. As an assessment task, students prepare a 10- to 15-minute oral presentation for an audience that includes their family and friends, site supervisor, community mentor, and a teacher of their choice. This task affords students the opportunity to describe their performance in the community, to summarize their work, and to demonstrate a skill too rarely seen in this school. As Connie Carter, service-learning coordinator, observes, “Our students have so little opportunity to speak before anybody. Even parents came to the school who had never been in our school before because it was the first time that their kid had been featured doing something individual.”

Students were asked to organize presentations around the following questions: What was the need or problem? What did you do? What changes resulted from your experience? What recommendations do you have for further work to address the problem or issue?

Oral presentations were scored by educators against an analytic rubric based on ideas and content, organization, language, and delivery (**Table 4-3**). To ensure inter-rater reliability, evaluators had students conduct practice presentations to establish benchmarks for performance. Afterwards, every student received a one page evaluation, prepared by the service-learning coordinator, as part of a comprehensive assessment of their performance on all required written, visual, and oral products.

The assessment was most closely aligned with the English Language Arts content standard related to the stylistic and rhetorical aspects of speaking, including the ability to “explore ideas, to present line of thought, to represent and reflect on human experience, and to communicate feelings, knowledge, and opinions.”

As a result of the assessment, teachers also learned how much students had enjoyed and grown from their service-learning experiences. “The message that came across to us was that this was the right thing to do,” Connie explained. Teachers also had the opportunity to see a side of students that they did not normally see and to understand what they were capable of doing in an independent project. But they also learned something else: that students needed much more preparation and practice with their public speaking skills. “I was surprised by the number of options that kids have. When students give an oral talk, teachers say, ‘well, if you’re not comfortable getting up in front of the class, you can turn in a written report.’ That is really doing the student a disservice. Now, we’re developing a new rubric that we will share with the English department and service-learning students so that we are clear about the

same standards. We all share a responsibility for teaching our students to speak in public and to communicate orally.”

Table 4-3: A four-level analytic rubric to guide and assess oral presentations.

Analytic Rubric for Oral Presentation			
5 Ideas and Content <ul style="list-style-type: none"> purpose and main ideas are clear and focused strong, supporting details contribute to audience understanding highly successful attempt to adapt content and details to audience and purpose 	5 Organization <ul style="list-style-type: none"> highly effective introduction brings audience to topic clear organizational structure enhances audience understanding of purpose and message a well-designed conclusion matches content and purpose of speech 	5 Language <ul style="list-style-type: none"> precise, descriptive language makes a strong impact figurative or creative language evokes clear images and an appropriate emotional response from audience grammar and usage almost entirely correct 	5 Delivery <ul style="list-style-type: none"> effective eye contact supports audience involvement effective variations in rate, volume, tone, and voice inflection are appropriate to audience and purpose fluent delivery
4 Ideas and Content <ul style="list-style-type: none"> purpose and main ideas are clear supporting details are relevant but may not be consistently strong successful attempt to adapt content and details to audience and purpose 	4 Organization <ul style="list-style-type: none"> effective introduction brings audience to topic clear organizational structure is relatively easy to follow planned conclusion may lack subtlety but still matches content and purpose of speech 	4 Language <ul style="list-style-type: none"> words that work but do not create a strong impact attempts at colorful language occasionally evoke an appropriate emotional response from audience, but may seem awkward or overdone grammar and usage are usually correct 	4 Delivery <ul style="list-style-type: none"> eye contact present but may not be made consistently with all members of audience effective rate, volume, tone and voice inflection are appropriate to audience and purpose generally fluent delivery
3 Ideas and Content <ul style="list-style-type: none"> identifiable main idea and purpose may be unfocused supporting details are often limited, overly general, or slightly off-topic an attempt to adapt content and details to audience and purpose 	3 Organization <ul style="list-style-type: none"> introduction either underdeveloped or awkward organizational structure occasionally unclear conclusion underdeveloped, obvious, or fails to match content and purpose of speech 	3 Language <ul style="list-style-type: none"> words rarely hold audience interest; occasional mundane expressions or clichés attempts at colorful language are awkward or forced distracting lapses in grammar or usage 	3 Delivery <ul style="list-style-type: none"> minimal eye contact with audience, some reading of content some rate or volume inadequacies; little variation in tone and voice inflection somewhat halting delivery with frequent space fillers such as “um”, “like”, “you know”, “whatever”
2 Ideas and Content <ul style="list-style-type: none"> main ideas or purpose unclear too little supporting detail or too much irrelevant, inaccurate, or redundant material minimal or unsuccessful attempts to take audience or purpose into account 	2 Organization <ul style="list-style-type: none"> introduction extremely underdeveloped or missing limited organizational structure is confusing conclusion extremely underdeveloped or missing 	2 Language <ul style="list-style-type: none"> words are flat or vague; colorful language is exaggerated and forced frequent errors in grammar and usage interfere with meaning 	2 Delivery <ul style="list-style-type: none"> little or no eye contact; speaker reads content rate is too fast or slow; volume is too loud or soft; monotone or highly erratic voice inflection halting delivery with frequent distracting fillers such as “um”, “like”, “you know”, “whatever”

Writing as a Summative Assessment Task Wells is a small seaside town on the southern coast of Maine bustling with visitors and retirees. Although the Wells-Ogunquit Community School District is well-known for its cutting edge reform efforts, many people without children in school often question what they view as the high cost of their schools.

In 1995, the new principal at Wells Junior High School wanted to start a community tradition that had worked well at his previous school. Soon, the Generations project was born. What started off as a one-day community service project providing Thanksgiving dinner for the elderly has turned into a dynamic 18-week instructional unit in Reading/Language Arts and a popular ritual for 200 grateful senior citizens. The school's sixth grade is in charge of the dinner from start to finish, serving on committees to design invitations and place mats, publicize the meal, plan the menu, solicit community donations for food, serve as wait staff at the event, and entertain their guests. Since there are no nursing homes or senior organizations in the community, students have to be doubly creative in getting word out — posters, flyers, newspaper advertisements, church announcements, even the school's marquee on busy Route 1 — is used. The Thanksgiving dinner has become so popular that there is even a take-out service for seniors who cannot travel to the event.

The instructional component of the Generations unit focuses on reading, literature and culture, writing and speaking, and research (**Figures 4-1** and **4-2**). Every student prepares for and conducts an interview with an elderly person about their life and times. Then, as a summative assessment task, they craft a short story focusing on an aspect of the aging process using details, characters, or themes gleaned from their interviews. After endless drafts and revisions, the stories are bound and distributed to seniors as well as to libraries in the district. Stories are assessed using peer editing rubrics, teacher conferences, and the district's scoring guide for writing.

Grade 5-8 English/Language Arts Learning Results	
<u>A. Process of Reading</u>	
	5. Understand stories and expository texts from the social and cultural contexts in which they were created.
	6. Identify accurately both the author's purpose and the author's point of view.
<u>B. Literature and Culture</u>	
	7. Recognize complex elements of plot.
	13. Demonstrate understanding of enduring themes of literature
<u>E. Process of Writing and Speaking</u>	
	2. Use planning, drafting, and revising to produce on-demand a well-developed, organized piece of writing that demonstrates effective language use, voice, and command of mechanics.
<u>G. Stylistic and Rhetorical Aspects of Writing and Speaking</u>	
	1. Write stories with an identifiable beginning, middle, and end.
<u>H. Research-Related Writing and Speaking</u>	
	7. Make limited but effective use of primary sources when researching topics.

Figure 4-1: *Learning Results for the Generations Unit.*

The Language of Literature Unit (approx. 18 weeks)

Short stories and poems in **bold** indicate **Generations** literature

Core Short Stories

- "The Most Dangerous Game", R. Connell — setting, characterization
- "The Sea Devil", A. Gordon — setting, plot
- "the Tell-Tale Heart", E.A. Poe — mood, point of view, character
- "If Cornered, Scream", P. Thurmond — plot
- "The Lie", K. Vonnegut — character, point of view
- "The Moustache"**, R. Cormier — character, theme
- "The Treasure of Lemon Brown"**, W. Meyers — character, theme, point of view
- "Another April"**, J. Stewart — theme

Poetry

- "Do Not Go Gentle into That Goodnight"**, D. Thomas
- "To the Virgins to Make Much of Time"**, R. Herrick
- "Mother to Son"**, L. Hughes
- "If I Had My Life to Live Over Again"**, N. Starr
- "A Crabbit Old Woman Wrote This"**

Novels

- Staying Fat for Sarah Byrnes*, C. Crutcher
- A Wizard of Earthsea*, U. LeGuin
- The Taking of Room 114*, M. Glenn

Literary Skills taught in this unit

- Plot
- Characterization
- Setting
- Mood
- Point of view
- Theme

Speaking/Listening Skills taught in this unit

- Conducting an interview

Writing Skills taught in this unit

- Essay
- Creating interview questions — level of questioning
- Creating a realistic-fiction short story with an elderly character as the central character

Figure 4-2: *Literature, reading, writing and speaking, and research were the instructional components of the Generations unit.*

Using Portfolios to Capture Learning Across Subject Areas

In 1992, Brian Flynn, an English teacher at Edward Little High School in Auburn, Maine challenged his students to decide how to improve the snake trail, a broken tar path winding through forty acres of wilderness behind the school — and a notorious hangout for truants and troublemakers. Seven years later, hundreds of students have completely transformed the woods into a recreational area for school and community use. Features include a paved walkway, landscaping and erosion control improvements, lookouts and benches, entrance sign and garden, cross country and mountain biking trails, a greenhouse, an amphitheater, and an archaeological dig.

At the sophomore level, a team of four academic teachers in math (Tina Vanasse), science (Shelly Cahpman), English (Brian Flynn), and history (Ryan Laroche) use the ELF Woods Project as a common experience to integrate the disciplines. Each year, students identify and design a field project where they apply their knowledge and skills from math, science, English, and history to improve the wilderness area behind their school. Assessment is performance-based:

- *Fieldwork:* Students use the fieldwork rubric to rate their

performance on a scale of 1– 4 at the end of each day (anchor task; see **Table 4-4**).

- *Daily journals:* Each day at the end of their field work and in each of their academic classes, students write a journal entry in which they reflect on the tasks they have undertaken, obstacles encountered, and accomplishments achieved. Emphasis is on relation to content (anchor task).
- *Journal summaries:* At the conclusion of each three-week session, students submit a five-paragraph summary that synthesizes their favorite daily journal entries from math, science, English, history, and team lab (anchor task).

Every three weeks, students meet in conference with their teachers to discuss and review fieldwork, daily journals, and journal summaries. Individual scores and grades are determined in each category.



Students plant perennials around greenhouse.

Table 4-4: Fieldwork Rubric for Performance-Based Assessment

Fieldwork Rubric					
Evaluation Elements	4	3	2	1	0
Time on task (3)	90 – 100%	80 – 89%	70 – 79%	60 – 69%	Less than 60%
Positive impact (2)	Makes strong, positive impact	Makes positive impact	Makes modest impact	Has no impact	Makes negative impact
Self-discipline (2)	Always demonstrates self-discipline	Consistently displays self-discipline	Generally displays self-discipline	Seldom displays self-discipline	Never displays self-discipline
Directions (1)	Always listens to and understands directions	Consistently listens to and understands directions	Generally listens to and understands directions	Seldom listens to and understands directions	Never listens to and understands directions
Language (1)	Always uses appropriate language	Consistently uses appropriate language	Occasionally uses appropriate language by accident	Sometimes uses inappropriate language	Deliberately uses inappropriate language
Tools & Equipment	Always takes responsibility for use and care of tools and equipment	Consistently takes responsibility for use and care of tools and equipment	Generally takes responsibility for use and care of tools and equipment	Seldom takes responsibility for use and care of tools and equipment	Never takes responsibility for use and care of tools and equipment

At the end of the second semester, students construct a portfolio using artifacts from their fieldwork and their academic classes, such as interviews, notes, tests, essays, research papers, sketches, labs, and journals. Students then present their portfolios individually in an exit performance to a panel of school and community members. The 45-minute interview is carefully structured: 5 minutes for students to introduce their portfolios, 15 minutes for students to present their best work in each subject area, 10 minutes for students to reflect on their growth as a learner, 5 minutes for students to describe their most positive experience from the last year, and 10 minutes for panelists to ask

questions of students. Panelists score exit interviews using a rubric with three levels (**Figure 4-4**). Each panel includes three people from the school or community — staff, faculty, parents, business leaders, state representatives, even the mayor. Through a series of open response questions, students are also given an opportunity to provide feedback on the process.

Three-Level Scoring Rubric for Exit Interview			
Student			Date <u>00/00/00</u>
Title/Topic	Exit Performance		
Class	Sophomore Team		
Teacher			Grade <u> </u>
Prompt	Please highlight the description which best matches the student's performance in each category.		
Standard			

Performance Element	Level 3	Level 2	Level 1
Content	The student clearly defines each topic and thoroughly explains what knowledge has been acquired.	The student clearly defines each topic and adequately explains what knowledge has been acquired.	The student generally defines each topic and partially explains what knowledge has been acquired.
Skills	The student thoroughly demonstrates the skills that have been mastered.	The student adequately demonstrates the skills that have been mastered.	The student partially demonstrates the skills that have been mastered.
Growth as a Learner	The student thoroughly demonstrates how she/he has grown as a learner.	The student adequately demonstrates how she/he has grown as a learner.	The student partially demonstrates how she/he has grown as a learner.
Composure	The student displays confidence and poise.	The student displays adequate composure.	The student displays a lack of composure.
Verbal Delivery	The student's speech is loud and clear.	The student's speech is understandable.	The student's speech is partially understandable.
Eye Contact	The student consistently makes eye contact.	The student frequently makes eye contact.	The student seldom makes eye contact.
Response to Interview	The student responds to interview questions thoroughly and demonstrates a high level of comprehension.	The student responds to interview questions adequately and demonstrates a competent level of comprehension.	The student responds to interview questions partially and demonstrates a low level of comprehension.

For Teacher Use Only:

Content/Skills Average Score: _____ X 4 = _____

Growth as a Learner Score: _____ X 3 = _____

Presentation Average Score: _____ X 1 = _____

Response to Interview Score _____ X 2 = _____

Total Score: _____ = _____

(Strategic Learning Technologies, Inc. 1996-1997)

Figure 4-4: Three-level scoring rubric for exit interview in ELF Woods project.

Exit performances have proved extremely valuable in demonstrating student knowledge and skills gained through service-learning. Indeed, “the more people see it, the more people want to see all kids do it.” Now, the district is considering expanding exit performances to all seniors as a requirement for graduation.

Using a Variety of Tasks to Assess Learning

Famous for its world class beaches, the town of Wells has been exploring ways to encourage tourism away from the coast by enhancing public access to its vast environmental resources. Recently, the Conservation Commission acquired 300 acres of land known as the Effie Fenderson Wildlife Commons. Not much was known about the property, so the town enlisted the seventh grade students at Wells Junior High School to investigate. Through a series of field trips, students mapped the topography, described microhabitats, tested soil and water quality, and sketched and classified the plants and animals that inhabited the area.

Students’ information will be used by the Conservation Commission to decide how the land should be put to use. As development turns increasingly inland toward less congested areas of the town, farms, wetlands, and forests are slowly disappearing. In order to test what they learned about the value of smart land-use planning, students complete an on-demand assessment task. Students are given a map of an area with a variety of habitats. They are then asked to design a community where 10,000 people will live, work, and play, making land-use decisions about where, given the type of habitats available, to place single-family and cluster housing, manufacturing plants, mining operations, agricultural farms, commercial stores and services, public recreation areas, roads and parking, and public facilities such as schools, utilities, hospitals, post office, sewage treatment plant, town office, fire, water, and police. The task demands that students make decisions that balance the environment with development, applying their knowledge about the ecological and economic value of different kinds of habitats gleaned from their field work at the Fenderson Wildlife Commons.

Through their on- and off-site field work, 7th grade students at Wells Junior High School learn content across the sciences (**Figure 4-5**).

Science teacher Bruce Fearon engages students in a variety of anchor, summative, and on-demand assessment tasks in order to assess student learning. Each different task provides a different piece of evidence and provides a more detailed picture of student learning. Through this comprehensive approach, Bruce is able to assess learning on a wide range of science standards and students are able to see how the pieces of their learning fit into a larger whole captured in their land use plans for the Wildlife Commons. Some of the assessment tasks used include:

<ul style="list-style-type: none"> ▸ Biology microbiology — protozoa and bacteria food chain — needs of living things, including food, temperature, oxygen/carbon dioxide, water, and life functions plants — parts and functions, tree identifications, and uses ▸ Chemistry acids/bases chemical changes/physical changes 	<ul style="list-style-type: none"> ▸ Earth Science ecosystems/habitats erosion/weathering meteorology — water cycle astronomy — seasons, day and night ▸ Physical Science magnetism ▸ Technology use of satellites
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Figure 4-5: 7th grade science curriculum connected to fieldwork.

Tree identification: Students construct a booklet of pressed leaves, mounted with correct classification information (anchor task).

Temperature and pH: Students take and record air and water temperature and pH in each of three different habitats in the Wildlife Commons (anchor task).

Ecosystems and Food Chains: Students construct and present a conservation poster that illustrates 25 – 40 scientific terms learned in the project (summative assessment task— see **Figure 4-6**).

Oral Presentation: Students present their data to the Wells Conservation Commission (summative assessment task).

Land-Use Planning: Students design a land-use map for a community where 10,000 people will live work, and play (on-demand assessment task).

Conservation Poster				
Criteria	Organization	Color	Neatness/Spelling	Message
5	Very organized User friendly	Many colors 6+	Very neat Words spelled correctly	Easily understood message/clear understanding of concepts
3	Somewhat organized Usable	Multiple colors 3-5	Neat/Some words misspelled	Message understood. Some question about understanding of concepts.
1	Lacks organization	Few colors	Needs work	Difficulty understanding message
	___ +	___ +	___ +	___ = _____ (Total)
20= A+ 17-19= A 14-16= B 11-13= C 8-10= D 7= Ask for help				

Figure 4-6: *Conservation Poster rubric*

SOAR: A Framework for Looking at Different Types of Assessment

Finally, it can be helpful for teachers to differentiate among the different kinds of assessment that can occur during service-learning. In School Administrative District #51, students in the tiny village of Cumberland, Maine are involved in all kinds of service-learning, from harvesting an apple orchard as a student-run business to publishing the history of the Cumberland Fair. Through the assistance of district administrators, teachers are encouraged to use a four-part assessment template called SOAR (**Table 4-5**) in order to capture the many dimensions of student learning.

Table 4-5: Template Showing Four Types of Assessment

Assessment Type	Goal	Examples
Subjective	hidden learning	written essays, journals, classroom participation, debates
Objective	mastery of knowledge	writing task
Authoritative	quality of product/service	engineer's seal building permit planning board approval
Reflective	student self-assessment	class sharing journal conference open response survey

At Greely High School, for example, an Industrial Arts class was challenged to design a foundation for the town's gazebo that would meet all engineering and building code requirements, use only a backhoe for equipment, and demand only a volunteer work force for labor. As an objective assessment, students completed a short-answer written test to demonstrate their knowledge of building code requirements and structural engineering factors. Then, each student submitted a design with a blueprint and materials list, which was subjectively assessed through a class discussion. A final design was submitted and evaluated by a local engineering firm and the town's building inspector (authoritative assessment). The result was not a grade, but a building permit. Reflective assessment was an in-class discussion on the lessons learned through the project.

There are multiple opportunities for assessment in the course of a service-learning experience. The authentic work produced by students in service can itself embody one of the best assessments of student learning.

Conclusion

As the Maine study group explored assessment practices for service learning, we came to recognize that good assessment for student learning through service is not that different from good assessment for any learning. In any learning experience, students create some type of product or performance that demonstrates their knowledge and skills. The "trick" in service-learning seems to lie in *formalizing the assessment process to tie it clearly to desired learning results*.

Sometimes, the service itself is a product that shows evidence of learning. These are often the *summative assessment tasks* that can be assessed with a rubric describing the characteristics of quality work. In addition, as students work through the KIDS as Planners process, there can be numerous *anchor tasks* that link directly to a particular learning result. A plot survey can show the student's command of scientific processes and plant identification; a letter to the select board demonstrates students' writing ability and understanding of the social issues impacting their town. These assignments within the service-learning experience can focus attention on particular learning results and allow students to

produce authentic evidence of their knowledge and skills. But even when these authentic tasks are unwieldy or not directly tied to learning results, teachers can use on-demand assessment tasks to assess student learning. A test, writing assignment, or simulation can be used to test the student's ability to transfer knowledge and skills contextualized in a particular service-learning experience to a similar situation, thus providing evidence of growth.

In the end, it is not the service-learning that is being assessed but the learning that results from service. We know our students learn through their service. Assessing this learning asks teachers to look for products and performances that reflect student achievement of learning results. As we found through our study, these products are there, or we can require them "on-demand." Documenting, providing feedback, and reporting on these products simply asks teachers to apply the assessment tools, such as rubrics, they would use for in-class products. Although we know good assessment of service-learning is not easy, it is not essentially different from assessment of any student learning. We found that when we became clear on what learning results we were targeting and what evidence students produced, we were able to develop assessment processes that not only helped score student learning, but also allowed students to grow as they reflected on their learning.

The Maine Study Group Story

In the spring of 1996, Maine joined the National Study Group on Assessment and Service-Learning to help us bring focus to our primary question: how do we assess the intellectual quality of student work generated through service-learning? Maine's Study Group on Service-Learning and Assessment was convened from May 1997 through June 1998. Our selected group consisted of eight members: one third grade teacher; two high school service-learning coordinators, two teachers of alternative education (one based at a high school and the other at an environmental education center), a team of four academic high school teachers who rotated meetings and occupied one slot; an assessment specialist with the Maine Math and Science Alliance; and the senior program manager of the KIDS Consortium.

Maine's study group met for a total of five full-day meetings, using the process of collaborative inquiry as a common framework. We began our inaugural meeting by examining products generated from service-learning projects — brochures, portfolios, reports, field guides. Playing detective, we examined these artifacts and worked backwards to determine the standards and the learning activities that led to these products. How much these proud and silent witnesses could tell us about the students who created them surprised us. Ultimately, this process of inquiry helped us generate a list of fifteen questions that would drive the focus of our work (**Figure 4-7**). At our second meeting, the study group focused on the resources available to respond to our unanswered questions about assessment. Using the process of collaborative inquiry, we looked at classroom assessment tools, guides and templates developed by teachers, assessment networks, and state Departments of Education across the country. Through this process, we considered which tools were

Our Questions on Classroom Assessment

- By what standards should we assess the quality of student work?
 - Technical standard**
For example, do you assess whether a student-designed gazebo employs the elements of design (architectural), demonstrates correct mathematical measurements (engineering), can be built on an identified piece of property (political or environmental), or reflects the New England character of the town (aesthetic or historical)?
 - Participation standard**—acquiring the skill (completion) versus applying the skill (performance)
For example, a music student who performs in an ensemble has already exceeded basic proficiency in the standard.
 - Academic content standards** in one or more disciplines, i.e., specific performance indicators in the Learning Results
 - Community impact** of the product or service
For example, to what extent do we assess students' efforts to eliminate pollution based on their water quality data?
 - Discovery or problem-solving standard**
For example, when something goes wrong, or when students acquire new information, are they flexible enough to make changes to integrate this data?
 - Utility** of the product or service
For example, to what extent do tourists use and enjoy a walking tour brochure that students have created?
- How do you hold students individually accountable for academic content demonstrated in a group product?
- How can we identify a common set of learning activities, or anchor tasks, in which all students can be engaged and assessed, when they are producing a group product?
- By what standards do we assess individual participation in a group project, including progress toward individual goals, ability to function effectively in a group, and demonstration of the Guiding Principles in the Learning Results? Tools in use include checklists, portfolios, exit interviews, presentations, exhibitions, and journals.
- How do you assess group process, including goals, activities, and effectiveness?
- Should the project drive the production of all student work?
- Which comes first, the standards or the project? Do we need to figure out all the standards in advance?
- What happens when the project has outgrown the curriculum?
- How have pedagogues similar to service-learning approached assessment? What resources have they created?
- Within a project, is it more important for students to have the opportunity to improve on their weaknesses or to enhance their strongest skills and talents? To what extent and to what level of proficiency?
- How can we award "credit" or "competency" for interdisciplinary knowledge and skills gained through an experience that occurred through the structure of a single course? or How do we bring teachers of different disciplines "on board" with service-learning?
- How can we make assessments both meaningful internally (to give feedback to students and teachers) and externally (to provide a common validation for parents and community)? Video is a good feedback mechanism.
- What traditional tests or assessment tasks can be used to assess whether students can transfer project-specific knowledge or skills to a new context?
- Should we limit assessment to content standards in one discipline? In other words, is it necessary and feasible to look at everything?
- Is service-learning a more effective strategy at delivering "concept" or "content", i.e., the Guiding Principles versus Performance Indicators in the Learning Results? Is application, the context in which students put it all together, more important than discrete knowledge and skills?

Figure 4-7: *The Maine Study Group's Questions About Assessment*

most useful and why, and which ones were lacking. Knowing what tools the field had developed, we zeroed in on what useful end product Maine's study group could develop, given our limited time and resources.

Our study group decided to develop a set of rubrics that could be used to assess student products addressing common content standards. We realized that many of the products we had examined had a lot in common. Whether through a poster, a pamphlet, or a museum exhibit, students can demonstrate the ability to communicate while representing their understanding of certain content outlined in the Learning Results.

Our next step was to identify those content standards in the Learning Results that we thought were common to most service-learning projects. Our final list included fifteen standards from the content areas of Career Preparation, English Language Arts, Health and Physical Education, Mathematics, Science and Technology, and Social Studies (**Figure 4-8**). Our study group felt that these standards were addressed by most service-learning projects in any grade level or classroom, whether a high school water quality monitoring project or a third grade cemetery restoration. We then clustered content standards that seemed related into the same categories, arriving at four cross-disciplinary areas — communication, reasoning, research, and personal and social responsibility.

Now our charge was to develop rubrics to assess knowledge and skills in each cluster, make recommendations for assessment tasks — products and performances — to which the rubrics could be applied, and field test them (*see Appendix, Tables 4-6 through 4-9*). This was much more challenging and confusing than we had anticipated, partly because we invited teachers from outside our study group to participate in the tool development. It was difficult to create ownership for the necessity of these tools from professionals who had not been on our journey from the beginning. We also encountered resistance to field testing the rubrics. By this time it was June, and our tool developers were reluctant to apply the rubrics to student work that may or may not have been intended to address the content standards reflected in the rubrics. Two of our study group members did pilot them, but it was not the massive field testing we had hoped for: the research rubric was applied to forest management plans developed by seventh grade students in a science class; the communication rubric was applied to student essays written by high school students who had done field work to transform the wild woods behind their school a recreation area; and the rubrics for reasoning and personal, civic, and social responsibility remained untested.

Technical Assistance Strategies To provide technical assistance, we conducted an “Assessment Academy” — a two-day event held at Sunday River, Maine with thirty-five teachers from across New England. The Academy was planned by Jill Rosenblum, the assessment specialist serving on our study group, and delivered with the help of KIDS staff and study group members. A unique feature of the event was the engagement of teachers as learners in a real service-learning project to design a feasibility study for the Franklin County Rail-Trail Project. First, students and staff from Maine School Administrative District #58 presented their efforts to design an 86-mile bike loop connecting all the towns in their school district along an abandoned rail corridor. Then, academy participants worked in committees with invited community experts to brainstorm research questions on different dimensions of the

Maine Learning Results Common to Service-Learning Projects

Research

- ▶ **Career Preparation - C. Integrated and Applied Learning**

Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings.

- ▶ **English Language Arts - D. Informational Texts**

Students will apply reading, listening, and viewing strategies across all areas of curriculum.

- ▶ **English Language Arts - H. Research-Related Writing and Speaking**

Students will work, write, and speak effectively in connection with research in all content areas.

- ▶ **Science and Technology - J. Inquiry and Problem-Solving**

Students will apply inquiry and problem-solving approaches in science and technology.

Communication

- ▶ **English Language Arts - E. Processes of Writing and Speaking**

Students will demonstrate the ability to use the skills and strategies of the writing process.

- ▶ **English Language Arts - F. Standard English Conventions**

Students will write and speak correctly, using conventions of standard written and spoken English.

- ▶ **English Language Arts - G. Stylistic and Rhetorical Aspects of Writing and Speaking**

Students will use stylistic and rhetorical aspects of writing and speaking to explore ideas, to present lines of thought, to represent and reflect on human experience, and to communicate feelings, knowledge, and opinions.

- ▶ **Science and Technology - L. Communication**

Students will communicate effectively in the applications of science and technology.

Reasoning

- ▶ **English Language Arts - A. Process of Reading**

Students will use the skills and strategies of the reading process to comprehend, interpret, evaluate, and appreciate what they have read.

- ▶ **Mathematics - J. Mathematical Reasoning**

Students will understand and apply concepts of mathematical reasoning.

- ▶ **Science and Technology - K. Scientific Reasoning**

Students will learn to formulate and justify ideas and to make informed decisions.

Personal and Social Responsibility

- ▶ **Career Preparation - A. Preparing for the Future**

Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future career decisions.

- ▶ **Health and Physical Education - E. Communication Skills**

Students will understand that skillful communication can contribute to better health for them, their families, and their peers.

- ▶ **Health and Physical Education - C. Personal and Social Interactions**

Students will demonstrate responsible personal and social behaviors in physical activity settings.

- ▶ **Social Studies - A. Civics**

Students will understand the rights and responsibilities of civic life and employ the skills of effective civic participation.

Figure 4-8: The Maine Study Group chose to focus on 15 standards from the Maine Learning Results

trail work — mapping, land ownership, geology, history, finance, transportation, and community involvement. The service project brought to life all of the messy issues teachers deal with when it comes to assessment, particularly students becoming experts in different aspects of the work. The one element that each group did have in common was research: no matter what the topic (e.g., mapping or history), each

committee was responsible for submitting a plan identifying essential questions they would research, sources of information (archival, survey, observation, interview, library), organization and presentation of information, action steps, resources, and people or agencies that would be helpful in the research process. This was exactly the kind of learning activity that happened in most KIDS projects and that could be assessed using the study group's research rubric (**Appendix, Table 4-6**).

Besides research, there are, of course, content-related activities unique to a rail-trail project, such as conducting title searches, designing bridges, or surveying user groups. Teachers identified all of the possible learning and service activities that might emanate from the feasibility study and the content from the Learning Results that would be addressed. Then, teachers designed an assessment task based on a learning activity in which all students might be engaged. In this way, teachers had a first hand opportunity, as learners, to discover how content common and unique to service-learning projects could be assessed.

The study group also served as a forum to share the classroom assessment tools developed by individual teachers for use in their projects. Some were developed with input from students. Others reflected standards related to academic disciplines, and in many cases, the Learning Results. Some tools could be applied to a variety of projects and products, others not. What we learned through sharing was that assessment was not the external, high stakes game it seemed at the beginning. It was not solely about holding teachers and students accountable for grades. Assessment helped teachers enhance student learning, inform teacher choices about instruction, guide student behavior, and monitor student progress. We learned that assessment can help build support for service-learning by demonstrating to other teachers, administrators, parents, and community members the content and skills manifested in the products and performances generated by students.

Appendix 4A:

Four Rubrics for Assessing Project-Based Learning

Table 4-6: Research Rubric

Criteria	0 No Demonstration	1 Attempted Demonstration	2 Partial Demonstration	3 Proficient Demonstration	4 Sophisticated Demonstration
Identification of Problem	No attempt to identify a problem	Poses a question for inquiry	Formulates a question with a plan for inquiry that identifies skills, knowledge, people, tools or other resources associated with the solution	Formulates a question with a plan for inquiry that details the skills, knowledge, people, tools and other resources from one disciplinary perspective needed to answer that question	Formulates a compelling question with a plan for inquiry that details the skills, knowledge, people, tools and other resources from two or more disciplinary perspectives needed to answer that question
Variety of Sources	No attempt to collect data	Collects qualitative or quantitative information from primary or secondary sources	Uses technology to identify and collect qualitative or quantitative information from primary and secondary sources	Uses technology to identify and collect qualitative and quantitative information from a variety of primary and secondary sources, e.g., print, archival, observation, survey, and/or interview	Uses technology to identify and collect qualitative and quantitative information across a variety of disciplines from a variety of primary and secondary sources, e.g., print, archival, observation, survey, and/or interview
Data Collection	No attempt to record data	Records and/or references observations, concepts, or details from primary or secondary sources	Records, interprets, and/or references relevant observations, concepts and details from primary and secondary sources	Applies standards to properly record, interpret, and reference relevant observations, concepts and details from primary and secondary sources	Consistently applies standards to properly record, interpret, and reference relevant observations, concepts and details from primary and secondary sources across a variety of disciplines
Validity of Data	No attempt to evaluate data	Information is recognized as fact, opinion, or generalization	Information is current and recognized as fact, opinion or generalization	Information is current and accurate and differentiated by fact, bias, opinion or generalization	Information across a variety of disciplines is current and accurate and differentiated by fact, bias, opinion or generalization
Representing Data	No attempt to represent data	Data is represented in written or graphic form	Data is represented in written or graphic form using appropriate technical terms	Data is summarized in written and graphic form using technical terms appropriate to the field of study	Data across a variety of disciplines is synthesized in written and graphic form using technical terms appropriate to the fields of study

Table 4-7: Communication Rubric

Criteria	0 No Demonstration	1 Attempted Demonstration	2 Partial Demonstration	3 Proficient Demonstration	4 Sophisticated Demonstration
Purpose	No product	Unclear purpose or main idea	Communicates an identifiable purpose and/or main idea for an audience	Achieves a clear and distinct purpose for a targeted audience and communicates main ideas with effectively uses techniques to introduce and represent ideas and insights	Achieves a clear and distinct purpose for a targeted audience and communicates main ideas using a variety of techniques to introduce and represent ideas and insights
Organiza- tion	No product	Organization is unclear; intro- duction, body, and/or con-clusion are underdeveloped, missing or confusing	Organization is occasionally unclear; intro- duction, body or conclusion may be underdeveloped	Organization is clear and easy to follow; introduction, body and conclusion are defined and aligned with purpose	A clear organizational structure enhances audience understanding; introduction, body and conclusion are well defined, effective, and aligned with purpose
Language Mechanics and Usage	No product	Limited variety of sentence structures and lengths; significant errors in grammar, word usage, spelling, capitalization, punctuation, and/or pronunciation	Limited variety of sentence structures and lengths or significant errors in grammar, word usage, spelling, capitalization, punctuation, and/or pronunciation	Variety of sentence structures and lengths and no significant errors in word usage, grammar, spelling, capitalization, punctuation and/or pronunciation	Engaging variety of sentence structures and lengths ; word usage, grammar, spelling, capitalization, punctuation and pronunciation almost or entirely correct
Detail	No product	Supporting details and/or visuals are missing, irrelevant, inaccurate, or inappropriate	Supporting details and/or visuals are relevant but limited, overly general, or inconsistently provided	Relevant use of supporting details; e.g., analogies, comparisons, examples, descriptions, AND/OR visuals; e.g., symbols, diagrams, graphs, tables, maps, models	Uses a variety of clear, pleasing, and relevant supporting details or visuals that contribute to the audience's understanding
Voice	No product	Some use of descriptive language and wording that may appear mundane, forced, or awkward	Use of descriptive language or wording to communicate a personal style	Effective use of descriptive language and transitional devices to express a personal style with a discernable voice and to enhance and connect ideas	Consistent and effective use of descriptive language and transitional devices that move, engage, or teach the audience

Table 4-8: Reasoning Rubric

Criteria	0 No Demonstration	1 Attempted Demonstration	2 Partial Demonstration	3 Proficient Demonstration	4 Sophisticated Demonstration
Verify and evaluate information	Makes no attempt to evaluate resources or data	Attempts to evaluate some resources but draws no reasonable conclusions	Evaluates some resources and data OR evaluates data and resources but draws incomplete or inaccurate conclusions	Evaluates resources and data accurately, considering credibility of sources, verification of findings, and reasonableness	Evaluates and verifies resources and data by generating original data to compare with others' findings OR by locating additional primary sources
Draw conclusions and make appropriate applications	Makes no attempt to draw conclusions or make appropriate applications	Attempts to draw conclusions from research or data analysis but they are inaccurate or irrelevant to the project	Draws some conclusions that are accurate or relevant to the project and/or uses some of the information appropriately in planning and carrying out activities	Draws accurate conclusions that are relevant to the project from research or data analysis AND uses the information appropriately in planning and carrying out activities	Draws accurate, relevant conclusions from research or data analysis and applies them in an insightful or sophisticated way in planning and carrying out activities
Justify and support decisions, strategies, findings, and solutions	No explanation or justification of decisions, strategies, findings, and/or solutions	Explanation used to justify and explain decisions, strategies, findings, and/or solutions is not relevant to the project	Explanation used to justify and explain decisions, strategies, findings, and/or solutions is not connected to information gathered while completing the project OR is incomplete	Explanation used to justify and explain decisions, strategies, findings, and/or solutions is complete and is supported by evidence gathered while completing the project	Explanation used to justify and explain decisions, strategies, findings, and/or solutions is complete and is supported by evidence gathered while completing the project AND includes relevant information from the student's experience beyond the requirements of the project

Table 4-9: Personal, Social and Civic Responsibility Rubric

Criteria	0 No Demonstration	1 Attempted Demonstration	2 Partial Demonstration	3 Proficient Demonstration	4 Sophisticated Demonstration
Personal	Unaware of responsible personal behavior	Recognizes responsible personal behavior but is unable to explain its importance in a physical activity setting	Able to explain responsible personal behavior but is unable to demonstrate it consistently in a physical activity setting	Able to explain and demonstrate responsible personal behavior in a physical activity setting, including safe and appropriate etiquette and conduct	Able to explain the importance and impact of responsible personal behavior in society
Social	Unable to recognize a competent leader and/or group mentor	Recognizes a competent leader and/or group member, but is unable to identify the skills necessary to function as one	Able to identify the leadership and membership skills necessary to function as a member of a team in a school, family, or community setting and the causes of conflict within these settings	Able to describe and demonstrate the leadership and membership skills necessary to function as a member of a team in a school, family, or community setting and to use strategies to prevent or solve conflict within these settings	Consistently acts as a leader and as a productive group member in a variety of school, family, and/or community settings and incorporates conflict prevention or resolution skills into daily experiences
Civic	Unable to identify a public policy issue in our democracy	Able to identify a public policy issue in our democracy	Able to identify and describe a public policy issue in our democracy	Able to identify and evaluate a public policy issue in our democracy and to explain the importance of active, informed attentive citizen participation in addressing that issue	Actively participates in solving a civic problem and articulates the impact of his/her actions on public policy and constitutional democracy

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KWLS AND ANCHOR TASKS: ASSESSING THE DIMENSIONS OF STUDENT LEARNING THROUGH SERVICE

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Abstract:

The California Study Group first identifies three dimensions of student learning that occur during service-learning: content learning, learning about service, and learning about a social issue. They then explore two widely applicable strategies that can be used to assess these three kinds of learning — the student self-assessment of learning called *KWL* (what I **K**now; what I **W**ant or need to know; what I have **L**earned) and *Anchor Tasks* (teacher-generated assessment tasks to gauge actual student learning). The chapter provides many teacher-developed examples of what these kinds of assessment strategies look like in practice.

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State Context

California's service-learning effort is rooted in a statewide initiative that — by the year 2004 — seeks to have fifty percent of the state's 1000 school districts engage every student in at least one service-learning experience in each of the grade spans (K-5, 6-8, 9-12). Each year, through a grant from the Corporation for National Service, the California Department of Education funds up to forty school/community partnerships that focus K-12 school districts on institutionalizing service-learning. Each partnership is required to expend ten percent of its budget for evaluation, which includes assessing students' academic and civic development. Like educators in other states that have service-learning initiatives, Californians view service-learning as an effective teaching strategy that helps students better meet many of the state's educational standards.

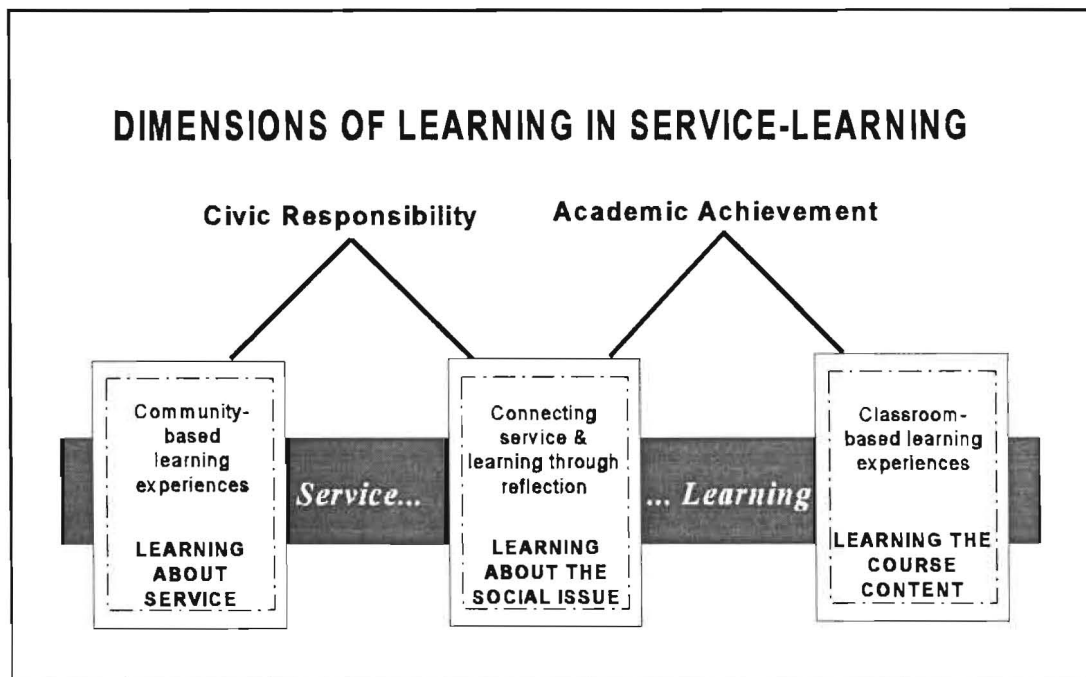


Figure 5-1: The Three Dimensions of Learning in Service-Learning

KWLs AND ANCHOR TASKS: ASSESSING THE DIMENSIONS OF STUDENT LEARNING THROUGH SERVICE

Introduction: The Conceptual Framework

Over a three year period, the California Study Group engaged in a critical dialogue and exploration of effective assessment strategies that could be applied to service-learning situations. As the study group's discussions about student assessment and service-learning unfolded, the members' attention focused increasingly on the complex nature of service-learning. In particular, the members, who consisted of practicing K-12 teachers and other educators, questioned whether or not "content learning" was the most critical element of service-learning. "If we can teach the content in the classroom without service-learning", stated one member, "we should employ service-learning to do other things, like develop students' leadership skills or civic responsibility." To which another member responded: "But the kids aren't learning the content through traditional teaching. That's the issue. I think service-learning contextualizes learning for the kids. It helps them learn the content."

Out of these discussions and debates rose the conceptual framework upon which the final work presented in this chapter is based. After much deliberation, it was determined that there are three learning dimensions of service-learning, which collectively foster the academic achievement and civic responsibility aspects of service-learning (**Figure 5-1**). Each of these learning dimensions is described below.

A primary goal of service-learning is to advance students' understanding of academic content. This is what distinguishes service-learning from community service. While teachers can use traditional assessment strategies (e.g., multiple choice tests) to measure the content learning of students who engage in service-learning, such assessment measures are often ill-suited to capture the full range of learning in service-learning. Aside from content learning, service-learning provides students an opportunity to learn how to perform a quality service that meets a local community need, and it promotes student understanding of a social issue. Collectively, these three dimensions of learning — content learning, learning about service, and learning about a social issue — form the academic and civic development aspects of service-learning. To be thorough in our efforts to assess the learning of students who are engaged in service-learning, we felt all three dimensions should be taken into account.

The California Study Group explored the use of two assessment strategies that can be used to assess the learning of students who engage in service-learning. The student self-assessment called the *KWL* measures student learning in all three dimensions of service-learning. The *KWL* lets students gauge their learning over time as they progress through the service-learning activity.

A second assessment strategy, called an *anchor task*, is a teacher-generated assessment that gauges the degree to which students have truly learned what they have reported to have learned on their KWL. When these two assessment strategies are coupled, a comprehensive and universally adaptable assessment package is formed. The KWL-anchor task combination provides an effective approach to assessing the three learning dimensions of service-learning.

The Three Learning Dimensions of Service-Learning

To provide some context, let us use the following service-learning project as an example.

The Fresno Fire Department determined that many senior citizens in the community, especially low-income seniors, did not have smoke detectors that worked properly. Students from a seventh grade Math class worked with a Retired Senior Volunteer Program to obtain the names and addresses of low-income seniors in their community. In their Math class, the students designed a survey to determine how many senior households had functional smoke detectors. The Fresno Fire Department trained the students in the operations and installation of smoke detectors and the overall importance of smoke detectors in saving lives during fires. Teams of students and firemen went to the identified homes to administer the smoke detector survey. Students helped the firemen install working smoke detectors in homes that did not have them and then provided important information to the residents of the household about the importance of having a functional smoke detector. The students used the statistics gathered from the survey to file a report with the local newspaper and other news media highlighting how many seniors in the community were at-risk for suffering from diseases and death related to fire and smoke inhalation.

The overarching learning objectives of this service-learning activity were to ensure that students understand

- the impact of fire on the human body and in animals;
- the process of treating burns;
- the responsibility of the local government to its citizens regarding fire safety;
- how to use data collected from a survey to determine who needs to get a smoke detector installed;
- how to install smoke detectors;
- how to develop press releases; and
- how to market one's message through various media.

The three learning dimensions of service-learning — learning the curricular content, learning about service, and learning about a social issue — each emphasize a different aspect of student learning. Consequently, there is a different assessment goal for each learning dimension. Using the fire safety for senior citizens service-learning project as an example, each of the three learning dimensions of service-learning is described below:

Learning the Content Service-learning uses service to the community as a means to contextualize academic content for students. Therefore, one of the primary focuses of service-learning assessment includes measuring the degree to which students gain an understanding of academic curriculum being taught.

Example: In the fire safety project, the assessment of content learning can focus on a variety of content objectives. For Mathematics, assessment might focus on math skills students develop from the survey design and data analysis. If the service-learning activity were part of the Science curriculum, the assessment of content might focus on assessing students' understanding of the impact of smoke and fire on the human body and animals. In Language Arts, the assessment of content learning might focus on assessing students' ability to convey important information through one-on-one informational presentations, public service announcements, press releases, and letters to public officials.

Learning about Service Along with learning the content, successful service-learning also involves the performance of quality service to a recipient with a need. Regardless of whether the service recipient is an individual or the greater community, is located off or on the school campus, is part of a specific community or society-at-large, the service that the students provide must be of quality and must be executed well. Meeting a community need requires understanding of and preparation for the tasks to be performed. Therefore, a second focus of the assessment process involves assessing the quality of the service students provide.

Example: In the fire safety project, the assessment of how well students have performed the service would consider the quality of interactions with the senior citizens and the students' ability to convey important information about the proper installation and upkeep of a smoke detector. The quality of the service hinges on the students' ability to explain to seniors how a smoke detector works and why it is important to have one in the home.

Learning about the Social Issue In successful service-learning experiences, students also gain a deeper understanding of the local social issue that undergirds the service activity. This is another important element that distinguishes service-learning from community service. Therefore, a third focus of the assessment process involves measuring the depth of students' understanding of the local social issue around which their service-learning activities are focused.

Example: In the fire safety project, the assessment of students' learning about the social issue would consider the students' understanding of risk factors for low income senior citizens, why they do not own smoke detectors, or why the smoke detectors in senior citizens' homes often do not work.

This three-pronged conceptual framework assumes that successful service-learning activities involve all three of these dimensions. To

conduct a full assessment of student learning in service-learning, assessment strategies that measure student learning all three dimensions must be in place.

With this conceptual framework in mind, the California study group analyzed and critiqued a variety of existing tools designed to measure the learning of students who engage in service-learning. The tools included rubrics, checklists, and multi-faceted assessment systems. The study group members soon realized that these tools were limited in their applicability to the full range of grade levels and content areas in which service-learning activities take place. In particular, many of the tools were developed with specific learning experiences, service activities, or student ability levels in mind. Consequently, the tools could not be adapted easily to a variety of service-learning contexts. The study group members eventually discovered that the KWL and the anchor task were two assessment strategies that could be applied universally to measure students' learning in each of the three learning dimensions of service-learning.

The impetus for studying the KWL and anchor task came from the California Department of Education, which was embarking on a statewide K-12 service-learning evaluation process that included the KWL and the anchor task for assessing student learning. The KWL-anchor task strategies had been selected by the Department specifically because they seemed to apply to all service-learning situations and can be used to assess the learning of all students, regardless of the students' age or ability. Consequently, the California group members saw an opportunity to contribute to the work of the Department of Education by studying KWLs and anchor tasks to determine how they can best be used to assess student learning in service-learning.

The KWL and Anchor Task

The KWL and the anchor task are two types of measures that allow for the assessment of student learning. While they are universally applicable strategies, they take on different forms that are specific to each teacher and classroom. The two measures differ but complement each other in that the KWL provides a reflective self-assessment by the student of his or her own understanding at different points, while the anchor task is designed by the teacher to assess students' understanding and learning. In other words, the KWL is a self-report of what students know and have learned, whereas the anchor task provides a way for students to demonstrate what they have learned.

Another difference between the two assessment strategies is that the KWL provides a broad overview of student learning, while the anchor task tests more specific concepts or skills taught through service-learning. To be most effective, the KWL and the anchor task are coupled; they each aim to assess students' achievement of the same learning objective(s). By using the two strategies in tandem, a more comprehensive assessment of student learning for a particular learning objective can be attained.

Typically, the KWL involves a three-step process that takes place over the course of the service-learning activity. At the beginning of the service-learning activity or unit, students are asked the K question: “What do you know” about a particular subject? This information can help the teacher get a sense of what students already know about a particular issue and then adjust what is being taught to ensure that the students’ learning needs are met. Later in the unit, the students are asked the W question: “What do you need or want to know” about the subject? The W gives students a voice in determining what content could be explored further or emphasized as the unit unfolds. And finally, at the end of the unit, students are asked the L question: “What have you learned” about the subject? The L encourages students to reflect on what they have learned. The KWL process allows each student to compare what he/she knew at the beginning of the unit with what they know at the end, thus self-assessing what they have learned.

The anchor task is any teacher-designed measure that asks students to demonstrate what they have learned. An anchor test can be a multiple choice test, an essay, an oral presentation by students, a portfolio, or a variety of other traditional or innovative assessment measures teachers already use. Anchor tasks can be formal assessments (multiple choice examinations or term papers) or informal assessments (student journal entries or class discussions). They can range from being simple tasks (a final examination) to more complex tasks (student portfolios that reveal student progress throughout the semester according to a standardized rubric developed by the teacher).

While the KWL asks students to share what they know and have learned about a particular issue or concept, the anchor task asks students to demonstrate that they have in fact learned it. The combination of the KWL and the anchor task can be used to measure each of the three learning dimensions of service-learning. In order for the KWL and the anchor task combination to be effective, each must assess students’ learning of the same learning objective(s).

Using the fire safety service-learning project as an example, let us explore how the KWL–anchor task combination might be used to assess students’ learning of the content. If one content learning objective for the service-learning activity was to have students learn about the effects of smoke inhalation on the human body, the KWL might ask students to respond to the following questions over the course of the activity:

- (K) What do you know about the effects of smoke inhalation on the human body?
- (W) What do you want to know about how smoke inhalation affects the human body?
- (L) What have you learned about how smoke inhalation affects the human body?

The anchor task would aim to measure students’ achievement of the same learning objective, but through a teacher-generated assessment tool. The anchor task might be a ten-question test about the respiratory system and the effects of smoke inhalation on the respiratory system, for example.

Or, in preparation for students to perform service in the community, the teacher might ask each student to practice explaining to each other the effects of smoke inhalation; the teacher would keep an account of how well each student has understood and is able to articulate accurately the effects of smoke inhalation on the body. For either of these anchor tasks, the measure of how well students perform is based on a set of pre-determined, teacher-established learning objectives for the curricular content.

The members of the California Study Group spent close to two years analyzing and critiquing the KWL-anchor task combination as a means to assess student learning in service-learning. In particular, each stipended member of the study group (eight practicing teachers) tried out the KWL and anchor tasks in their own classrooms. They investigated the utility, applicability, advantages, and disadvantages of the strategies. From these field tests and analyses, the study group members developed examples of how the KWL and anchor tasks might be applied to different service-learning situations. They also developed a set of suggestions for using KWLs and anchor tasks. These examples and suggestions are discussed in the next section.

The Essential Questions

The Product Outcome Guide (**Figure 5-2**) was developed to guide each study group member's investigation of the KWL and the anchor task as strategies for assessing student learning in service-learning. This simple planning guide highlighted the issues and questions that the eight stipended members used as they tried out the KWL-anchor task combination in their classrooms. The Product Outcome Guide was developed with the intention of guiding the members' field testing; it was not constructed to restrict the members' approach or thinking in any way.

Although the investigation of the KWL and anchor task strategies was sporadic among the group's membership (not all members field tested the KWL and anchor task with the same intensity), a number of valuable pieces of information emerged. As the work of the study group unfolded, the study group members addressed various issues regarding KWLs and anchor tasks and the utility of these strategies in assessing student learning in service-learning. This section highlights some of issues the study group members explored. Each issue sheds essential information for understanding how the KWL and the anchor task can be best used.

How should the KWL and the Anchor Task Be Designed? The designs of the KWL and the anchor task depend on the learning objectives established by the teacher. Similarly, how the data from the students' responses are interpreted to make determinations about student learning is also dependant upon the pre-determined learning objectives for the activity.

Product Outcome Guide		
Context: _____		
Purpose: Learning Goals		
	KWL	Anchor Task
How and when collected		
Scoring		
Use of results		
Advantages		
Disadvantages		
Tips		
Other		

Figure 5-2: The "Product Outcome Guide" helped guide teachers' field testing.

While planning the service-learning activity, the teacher should specify:

- 1) the learning objectives for the activity (content, service, and/or social issue);
 - 2) the particular knowledge and skills that will be assessed;
 - 3) what knowledge students might already have about the topic.
- (After students generate the K piece of the KWL, the teachers might, for example, give different roles to different students, based on individual student knowledge of particular aspects of the service-learning activity.)

How is the KWL administered? Portions of the KWL are administered at different points in the service-learning unit or activity:

- Typically, the K is administered to students at the start of a service-learning activity. The K provides teachers with a gauge of what students report to be their initial understanding of a particular issue.
- While the W is typically administered during the midpoint of a service-learning project, it can also be administered with the K at the start of the project (see Service-Learning Example 5-4 later in this chapter). The W asks students to identify what more they

want to know about an issue or topic and helps them identify the particular questions they would like to explore during the course of the service-learning project. The information provided by students in the W can also help teachers define which learning objectives need to be emphasized (or de-emphasized) during the remainder of the project.

- The L, which asks students to identify what they have learned about a particular issue or topic, is typically administered at the end of the project. Not only does the L allow students to reflect on what they have learned, but it reveals to the teacher which learning objectives students believe they have met.

To be effective, the questions or “prompts” asked in the K, W, and L must all focus on the same issue or topic. In this way, the answers provided by individual students at the beginning of the service-learning experience can be compared with the answers they provide in the middle and at the end.

Why does the KWL need to be accompanied by an Anchor Task?

KWLs alone do not provide enough evidence to draw firm conclusions about what students have learned, since they are students’ self-reports of what they have learned. By having the students demonstrate through an anchor task that they indeed know or have learned particular concepts or skills, the actual depth and scope of students’ understanding and knowledge can be ascertained. The five examples presented later in this chapter show how the KWL and the anchor task are used in tandem to measure various aspects of student learning.

How is the Anchor Task administered?

Anchor tasks should be thought of as a variety of assessment strategies that teachers already use in class to assess students’ learning of content and skills (multiple choice tests, essays, and other teacher generated performance measures). Because an anchor task can be any formal or informal teacher-designed assessment tool, the administration of the anchor task varies according to the task used. In some cases, the anchor task will need to be administered at the end of the service-learning activity or unit as a means to provide a cumulative report on student learning. In other cases, the anchor task may be administered at a particular juncture in the service-learning experience when the particular topic of the anchor task occurs. For example, in the fire safety project example, a teacher might want to assess students’ understanding of how smoke inhalation affects the body before students go into the community to talk with the senior citizens. Several different anchor tasks (which measure the same or different learning objectives) can be used throughout a service-learning activity to ensure that a comprehensive assessment of student learning is conducted.

How is the information that students provide on the KWL and the Anchor Task used for assessing student learning?

Rather than actually grading or numerically scoring students’ responses on the K, W, and L, the teacher uses the information students provide on the KWL and the anchor task to shape

the content and activities of the class. By asking the students about what they know about a particular topic, teachers can determine whether they need to go more deeply into a topic or provide the students with particular background information. If it is determined that the students are already knowledgeable about a topic, the teacher can move ahead to the next activity or unit. The KWL and the anchor task should be used to help identify gaps in students' knowledge. In this way, the service-learning activity can be planned appropriately to help fill those gaps.

The W of the KWL, for example, is an opportunity for students to identify important information they think they might need to perform a quality service. It is also an opportunity for students to share which aspects of the service-learning experience they would like to explore further. The teachers might use this information to reshape the unit in order that students' learning needs are met. In addition, individual students' responses to the K, W, and L can be compared to help paint a picture of what students knew about the particular topic at the beginning of the service-learning activity and what they know at the end. Some teachers have the students analyze their own KWL responses, which helps students realize the amount of progress they have made over the course of the service-learning experience. Because the KWL and the anchor task are designed to measure the same learning objective, a teacher should match a student's performance on the anchor task with the student's self-reported responses on the KWL. This matching helps the teacher determine to what degree students' performances on the anchor task match the data on their KWLs. Collectively, the information from the KWL and the anchor task can create a fairly comprehensive assessment profile that highlights the learning progress and achievement of each student.

It is not possible in this chapter to review all the possible ways that the information students provide on KWLs and anchor tasks can be analyzed to make determinations about student learning. Since each KWL and anchor task is idiosyncratic to the specific goals and tasks of each classroom's service-learning activity, how the students' data are actually used for assessing student learning needs to be determined by the individual teacher. An extremely effective strategy for using KWL and anchor tasks in one service-learning situation may be an entirely inappropriate strategy for another classroom. The members of California's study group members recommend that teachers experiment with a variety of "scoring" strategies (numerical scoring, rubrics, "eyeballing" information, checklists, etc.) when using KWLs and anchor tasks.

Using the KWL and Anchor Tasks to Measure the Learning Dimensions of Service-Learning

The KWL and anchor tasks can be used to measure learning in any of the three learning dimensions of service-learning. To illustrate this, five examples are provided that show how the KWL-anchor task combination can be used to assess students' learning of the content, the service, and the social issue. Each example describes the activities of an actual class

in California that uses service-learning. The first three examples describe how the KWL-anchor task combination is used to assess student learning for one of the three dimensions. The last two address other issues raised by this form of assessment. To show the wide adaptability of KWLs and anchor tasks, the five examples are varied in terms of grade level, subject area, service activities, and learning objectives. In addition, wherever possible, the examples also show how the learning objectives of the service-learning activity are tied to the SCANS skills and California's state-wide content standards.

Assessing the Learning of the Content Example 5-1 provides a further discussion of how the KWL and the anchor task can be used with fire safety example provided earlier. In this example, the KWL and the anchor task are used to assess students' learning of the content, which is part of an interdisciplinary middle school curriculum.

EXAMPLE 5-1

Using the KWL and Anchor Task to measure Student Learning of Content

Fire Safety for Senior Citizens from West Fresno School District: An Interdisciplinary Approach

Grades: 6-8 **Subjects:** Science, History, Math, Social Science, Health

Identifying the Community Need: The Fresno Fire Department determined that many senior citizens are in danger from house fires because they did not have smoke detectors installed and working properly. Students worked with a Retired Senior Volunteer Program to get names and addresses of low income seniors in their community. Students designed a survey to determine the need for smoke detectors. The Fresno Fire Department trained the students in the use and the need for smoke detectors. Teams of students and firemen went to the identified homes to give the survey and install smoke detectors, if needed.

Learning Objectives to be Assessed: To ensure that students understand: the impact of fire on the human body and in animals; the process of treating burns; the responsibility of the local government to its citizens regarding fire safety; how to use data collected from a survey to determine who needs to get a smoke detector installed; how to develop press releases; and how to market one's message through various media.

Curricular Content:

- **Science:** Impacts of smoke and fire on the human body and in animals (pets), the science associated with fire ignition and spreading. Students studied the dangers of fire and smoke from fires.
- **History-Social Science:** Responsibility of local government agencies to its citizens re: fire safety information.
- **Math:** Designing a survey to collect meaningful data, data collection and tabulation. Students developed a survey to be given to senior citizens to determine whether they had working smoke detectors and, if not, whether they would like the Fire Department to install some in their home at no cost. Students tabulated the results for the fire department.
- **Language Arts:** Writing public service announcements, press releases, and letters, and writing a report using data collected. Students developed public service announcements, press releases, letters, and a script for student interviewers. A TV reporter met with the class to guide them in writing a PSA and a press release. Students prepared a report for the fire chief.

- **Health:** Health impacts of smoke and fire, the process of treating burns. Students visited a burn treatment center at a local hospital where they learned about the treatment of burns.

Social Issue: Low income senior citizens may be at risk for home fires because they do not own smoke detectors or the smoke detectors they have are not working.

Service: Students working with community agencies identify senior citizens who need smoke detectors and provide the seniors with important information about the proper installation and upkeep of a smoke detector.

SCANS Skills: This service-learning activity can help students meet the following SCAN skills and competencies: creating community partnerships, especially RSVP and the fire department and the school, interview strategies and script writing, survey development and data processing, public relations, and problem solving—how to get essential resources to people who need them.

Multiple KWLs can be used during the course of a service-learning project. Each of the examples below can be used as a journal prompt that encourages student reflection on particular aspects of the academic content area. Depending on the length of the service-learning activity, the teacher can either assign some or all of these KWLs at appropriate times during the service-learning project. Which of these KWL questions are most appropriate will depend on the primary intended learning objectives for students and the subject area (e.g., Science, Health, Social Studies, etc.) that is the focus of the assessment.

Potential K's:

- K.1) What do you know about how fire impacts the human body?
- K.2) What do you know about how fire impacts animals?
- K.3) What do you know about the process of treating burns?
- K.4) What do you know about the responsibility of the local government to its citizens regarding fire safety?
- K.5) What do you know about surveys?
- K.6) What do you know about press releases?
- K.7) What do you know about using the media to market an important message?

Potential W's

- W.1) If you were to give advice to someone who was exposed to a great deal of smoke from a fire, what additional information would you need to look up before you gave them advice on what to do?
- W.2) What more do you need to know about how fire impacts animals?
- W.3) What additional information do you need to gather before you can tell someone how to treat a burn?
- W.4) In regards to the responsibility a local government has to its citizens regarding fire safety, which aspects of the responsibility are most confusing to you?
- W.5) What more do you want to know about designing an effective survey?
- W.6) You are given the task of developing a press release about the effects of fire on the human body. What more do you need to know about press releases in order for you to accomplish this task?
- W.7) What do more do you want to know about using the media to market an important message?

Potential L's

- L.1) What have you learned about how fire impacts the human body?
- L.2) What have you learned about how fire impacts animals?
- L.3) What have you learned about the process of treating burns?
- L.4) What have you learned about the responsibility of the local government to its citizens regarding fire safety?
- L.5) What have you learned about surveys?
- L.6) What have you learned about press releases?
- L.7) What have you learned about using the media to market an important message?

Anchor Tasks: The Anchor Tasks will vary depending on which KWLs are used. For example, if KWL #1 was administered to students in a Health or Science class, the Anchor Task might ask the students to demonstrate what they have learned about the impact of fire on the human body by developing a class presentation on how fire affects various types of individuals (children, the elderly, those with respiratory ailments, etc.). On the other hand, if KWL #4 was administered to students in a History or Social Studies class, the Anchor Task might be a multiple choice test on local government responsibilities and jurisdictions. If multiple KWLs are administered to the same group of students throughout the service-learning project, the Anchor Task could be a culminating event where students demonstrate a broad range of interdisciplinary knowledge they have gained from their service-learning experience. This event could be a simple written examination or a combination of written examination, oral presentations, portfolio displays, and media presentations. The primary intended learning objectives for students should drive which KWL questions are asked and which Anchor Tasks are used.

This example was developed by John Minkler, School of Education and Human Development, California State University Fresno, Fresno, California.

As the example shows, the prompts of the KWL can take many different forms. Ultimately, as mentioned earlier, the KWL questions that are asked and the anchor task(s) that is used should be rooted in the intended learning objectives of the service-learning activity.

Example 5-1 also reveals that multiple KWLs and anchor tasks can be administered during one service-learning project. For example, several K's can be given in a row on a set of different smaller topics (e.g., each focusing on a different branch of the local government), all of which culminate with one L (the role of the various branches of government in ensuring fire safety). Or, several KWLs can be given each day or each week on a different topic. For example, at the start of a class period discussion on the effects of fire on the respiratory system, the students might be asked, "What do you know about how fire affects the respiratory system?" In the middle of the class period students are asked, "What more do you want to know about how fire affects the respiratory system?" And at the end of the period, students are asked, "What have you learned about the how fire affects the respiratory system?" The next day, the KWL might focus on the how fire affects the body's temperature.

The study group members observed that there is no one best time frame to administer the KWL and/or the anchor task. While some teachers administer one KWL and one anchor task during the entire service-learning project (which could last an entire semester), other teachers administer several KWLs and several anchor tasks during the project. To be effective, the KWLs and anchor tasks must be adapted to fit best with the structure, learning objectives, and assessment needs of the service-learning project.

Assessing the Learning of the Service Skills Example 5-2 describes how the KWL and the anchor task can also be used to assess students' learning of the service skills. In this example, seventh grade students in a Language Arts/Reading class serve as Buddy Readers to elementary school students. The teacher in this example seeks to assess the degree to which each student is an effective Buddy Reader and understands the dimensions of tutoring reading to younger students.

EXAMPLE 5-2

Using the KWL and Anchor Task to Measure Student Learning of the Service Issue

Middle School Buddy Reading

Grade: 7 (in conjunction with an elementary school) **Subject:** Language Arts/Reading

Identifying the Community Need: Test scores indicate that students at a local elementary school are under achieving in their reading development.

Learning Objectives to be Assessed: To develop good Buddy Reading skills so that the effectiveness of the tutoring is maximized.

Curricular Content: Students reinforce what they are studying in their 7th grade Language Arts Curriculum by becoming a Buddy Reader with a younger student. As students prepare for their Buddy Reading assignments, they practice effective reading strategies using literature from the grade level that their Little Buddy is in. This practice allows the students to reinforce their understanding of Language Arts concepts with text that is not at their own grade level, and thus, less vocabulary dominated.

Social Issue: The students will discuss the ramifications of illiteracy and how important it is for all people to be able to read so that they can be successful in school and in life.

Service: Students will learn how to work with younger children, learn to adjust their reading to the needs of the elementary school students, and learn how to respond appropriately to the elementary school students' questions about reading.

Content Standard: This service-learning activity meets several of California's seventh grade language arts standards:

READING

Standard 1.1: Identify idioms, analogies, metaphors, and similes in prose and poetry.

Standard 1.3: Clarify word meanings through the use of definition, example, restatement, or contrast.

Standard 2.4: Identify and trace the development of an author's argument, point of view, or perspective in text.

NARRATIVE ANALYSIS OF GRADE-LEVEL-APPROPRIATE TEXT

Standard 3.2: Identify events that advance the plot and determine how each event explains past or present action(s) or foreshadows future action(s).

Standard 3.3: Analyze characterization as delineated through a character's thoughts, words, speech patterns, and actions; the narrator's description; and the thoughts, words, and actions of other characters.

Standard 3.4: Identify and analyze recurring themes across works (e.g., the value of bravery, loyalty, and friendship; the effects of loneliness).

The Listening and Speaking Standards listed below are the grade level skills that students are acquiring and reinforcing at Grade 7. The selected standards can be taught and reinforced through the Buddy Reading process.

LISTENING AND SPEAKING

Standard 1.0: Deliver focused, coherent presentations that convey ideas clearly and relate to the background and interests of the audience. Students evaluate the content of oral communication.

COMPREHENSION

Standard 1.1: Ask probing questions to elicit information, including evidence to support the speaker's claims and conclusions.

Standard 1.2: Determine the speaker's attitude toward the subject.

Standard 1.4: Organize information to achieve particular purposes and to appeal to the background and interests of the audience.

Standard 1.5: Arrange supporting details, reasons, descriptions, and examples effectively and persuasively in relation to the audience.

Standard 1.6: Use speaking techniques, including voice modulation, inflection, tempo, enunciation, and eye contact, for effective presentations.

Standard 1.7: Provide constructive feedback to speakers concerning the coherence and logic of a speech's content and delivery and its overall impact upon the listener.

The KWL examples provided here focus on the Listening and Speaking Standards. KWLs can be given holistically (covering all or some of the standards) or individually by particular standards.

Holistic Example

K: What do you know about being a good Big Buddy for Buddy Reading?

W: What do you think you need to learn in order to be a good Big Buddy? What qualities and skills will make you a good Big Buddy? What skills will you need to learn?

L: What have you learned about being a good Big Buddy? What are Big Buddy best practices?

K-W-L Example by Standard

Standard: 1.1 Ask probing questions to elicit information, including evidence to support the speaker's claims and conclusions.

K: What do you know about asking questions when you work with your "little buddy"?

W: What do you want to learn about asking questions that will make you a more effective Big Buddy?

L: What have you learned about asking questions that have made you a more effective Big Buddy?

Anchor Task: The Anchor Task is based on the teacher's observation of the Big Buddy during the Buddy Reading process. The Anchor Tasks can be given holistically or by particular standards.

Holistic Approach

Through a checklist developed by the teacher, the teacher assesses the number of standards each student (Big Buddy) demonstrates achievement in during a Buddy Reading session.

Anchor Task by Standard

Standard 1.1 Ask probing questions to elicit information, including evidence to support the speaker's claims and conclusions.

The teacher assesses whether the Big Buddy asks the Little Buddy probing questions concerning the text. For each student (Big Buddy), the teacher quantifies the number of probing questions, where they were used in the lesson, and their overall effectiveness.

Standard 1.2 Determine the speaker's attitude toward the subject.

For each student, the teacher determines (by a checklist or other means) whether the Big Buddy asks the Little Buddy about the Little Buddy's attitude towards the text and/or plot developments within the text.

Standard 1.4 Organize information to achieve particular purposes and to appeal to the background and interests of the audience.

The Big Buddy teaches a mini-lesson to a Younger Buddy regarding a grade appropriate reading concept. Through a rubric or checklist developed by the teacher, the teacher assesses how well the Big Buddy organizes the information being taught, the degree to which the Big Buddy uses developmentally appropriate examples as well as the degree to which the Little Buddy is engaged.

Standard 1.6 Use speaking techniques, including voice modulation, inflection, tempo, enunciation, and eye contact, for effective presentations.

The teacher assesses the speaking techniques of the Big Buddy, including voice modulation, inflection, tempo, enunciation, and eye contact.

Standard 1.7 Provide constructive feedback to speakers concerning the coherence and logic of a speech's content and delivery and its overall impact upon the listener.

Through a set of criteria determined by the teacher, the teacher assesses the coherence of the Big Buddy's reading lesson and its overall impact upon the Little Buddy.

Example provided by Evan Goldberg, Service-Learning Coordinator, Alameda County Office of Education, Hayward, CA.

Like the previous example, this example reveals that the KWLs and anchor tasks can be administered holistically (to assess learning of the entire learning objective) or more specifically (to assess learning of particular components of the learning objective). What is also interesting to note is that the “service” learning objectives of this service-learning effort are aligned with many of the state’s “content” standards in Language Arts. For example, to be effective Buddy Readers, the students need to have essential comprehension skills such as the ability to ask probing questions to elicit information (Standard 1.1) and the ability to arrange supporting details, reasons, descriptions, and examples effectively and persuasively in relation to the audience (Standard 1.5).

One of the challenges that the members of the study group confronted regarding using the three-dimension conceptual framework was that in some cases, it was difficult to distinguish among the content learning objectives, the service learning objectives, and the social issue learning objectives. In Example 5-2, is learning how to ask probing questions a content learning objective (improving Language Arts skills) or a service learning objective (becoming an effective Reading Buddy)? The members of the study group learned that the distinctions among the three learning dimensions become less clear as the service activity and the curriculum become more integrated. In addition, the study group members identified cases for which the service activity itself was used as the anchor task; by performing the service activity well, students demonstrated that they had met some of the learning objectives (Example 5-5 discussed later in this chapter demonstrates this point).

Assessing the Learning of the Social Issue Example 5-3 describes how the KWL and the anchor task are used to assess students’ learning of the social issue. In this example, high school students in a Peer Counseling course seek to gain a better understanding of why special education students, who are mainstreamed into regular classrooms, are often mistreated. The goal is to improve other students’ attitudes towards individuals with special needs. The example also shows how the KWL can be administered as both an individual activity and as a group activity. In addition, several examples for anchor tasks are provided.

EXAMPLE 5-3

Using KWLs and Anchor Tasks to Measure Student Learning of a Social Issue

Exploring the Inclusion of Special Education Students

Grade: 9-12

Subject: Peer Counseling

Identifying the Community Need: A school report indicates that some students with special needs are being treated poorly by other students at the school. The report describes how special education students who are being mainstreamed into regular education are the ones who are most at-risk for mistreatment. This class seeks to improve the attitudes of individuals towards students with special needs.

Learning Objectives to be Assessed:

- Understand inclusion of special education students into mainstream education
- Improve students’ attitudes towards individuals with special needs

Curricular Content: In Language Arts, this unit meets Los Angeles Unified School District standards #1,2,5,9:

Standard 1: Comprehend, interpret, and evaluate literal and implied meaning in a variety of listening situations, including lectures, speeches, debates, dramatic presentations, and readings from literature and poetry.

Standard 2: Speak to achieve intended effect using formal and informal conventions of the English language appropriate to varied purposes and audiences.

Standard 5: Write clearly — using the formal conventions of the English language, including grammar, spelling, punctuation, capitalization, sentence structure, word choice, paragraphing, and figurative language — in a variety of writing styles suitable to particular situations.

Standard 9: Evaluate and debate alternative points of view in situations involving conflicts in various literary selections and other sources.

Service: Students will provide peer counseling to students with special needs.

Social Issue: Students will learn about and develop an understanding for the needs of challenged students at the school.

KWLs

K: How do you know about the inclusion of challenged students at our school?

Individual activity: Students write a paragraph in response to this question. Students are given credit for writing the paragraph. The teacher assesses the level of student knowledge of inclusion and uses that assessment to shape the lesson on the inclusion program.

W: Do you think that inclusion is a good idea? Why or why not? What are some of the questions or concerns you have about the inclusion program.

Group activity: Students answer these questions in cooperative groups. Students are given credit for participating in the group discussion and developing meaningful questions.

L: What have you learned about the inclusion of challenged students into the mainstream of classes and activities at our school?

Individual activity: Each student keeps a reflective journal about her/his involvement with a challenged student and the nature of inclusion activities in which the challenged student is involved. Additionally, they include in their journal their reaction to the panel discussion provided by the parents of challenged students which focused on why parents want their children included in the mainstream of school.

Anchor task: Each student will prepare a report about the inclusion of challenged students in the mainstream classes and school activities. This report will be based on the personal experiences that occurred during the 5 hours in which the regular education student spent with an inclusion student. It will detail what the inclusion student gained by being part of the mainstream of the school as well as the contributions that the inclusion student made to the school. The report will also clearly define the term inclusion as it relates to a strategy for special education

Other possible anchor tasks:

Report of an interview with one of the inclusion student's teachers.

Observation of the inclusion student in school activity.

Students define the terms related to special education and inclusion.

Research the California and/or federal laws that deal with including special students in mainstream education and activities.

Visit an agency that services the special needs population and write a report about the agency and its services.

SCANS Skills:

Speaking clearly; asking clear questions; working independently

Example provided by Susan Ward-Roncalli, Teacher, Eagle Rock Jr.-Sr. High School, Los Angeles, CA

As all three examples reveal, the KWL -anchor task combination can be an effective way to measure the various aspects of student learning in service-learning. Each can be applied in different ways, depending on the structure of the service-learning activity, the learning objectives, and the assessment needs of the teacher. The flexibility and adaptability of the KWL–anchor task combination create an attractive and user-friendly assessment strategy for teacher who use service-learning.

Other Issues with the KWL–Anchor Task Strategy

As the study group explored the use of KWL and anchor tasks, several issues about their adaptability and utility were raised. Three issues in particular stand out. One issue had to do with the use of KWLs and anchor tasks with very young students. How does one use KWLs and anchor tasks with kindergartners, for example? A second issue had to do with the complexities of using KWLs and anchor tasks to assess simultaneously student learning in more than one learning dimension. For example, can one KWL and anchor task be used to measure both learning of the content and learning of the service? And a third issue had to do with whether KWLs and anchor tasks are only intended to assess individual students' learning, or if they can be used to assess the learning of a class as a whole.

Through their various explorations and discussions, the study group members discovered that it is possible to use KWLs and anchor tasks with young children. The study group members also discovered that it is possible to use one KWL and anchor task to assess student learning in two or all three learning dimensions of service-learning. In their exploration, the study group members learned that KWLs and anchor tasks are just as effective in assessing the learning of an entire class as they are in measuring the learning of individual students. The two examples that follow (Examples 5-4 and 5-5) provide a description of how these issues play out in actual classroom situations.

Assessing the Learning of Young Children Example 5-4 describes how the KWL and anchor task can be used with kindergarten students to assess their learning of the content. In this example, the students are engaged in an interdisciplinary service-learning project (Science, Language Arts, Social Studies, and Art) that is focused on producing a play that provides a message on the importance of trees to the environment. The content goal is to have the students learn about trees and their importance to a healthy environment. The example also shows how the KWL, in particular, can be used to assess the content learning of both the individual students and the kindergarten class as a whole.

EXAMPLE 5-4

Using the KWL and Anchor Task with Very Young Students to Measure Student Learning of Content

The Branches of Literacy

Grade: Kindergarten

Subject: Trees and the environment

Identifying the Community Need: Students identified the problem of too many trees being cut down or neglected. The students were asked essential questions after taking part in a series of background building experiences. During these discussions, the students raised several concerns. They were very concerned that too many trees were being cut down, that trees do many things for people and the climate, and that people should take care of trees. They were asked what can we do as community helpers to take care of the trees in this neighborhood. They decided it was their job to tell people to take care of trees and that they wanted to make posters and put on a play at a local park. The students were studying about the community and also wanted to invite the community, their parents, and friends to see the play.

Learning Objectives

Curricular Content:

- Science: Students will learn about trees and their importance to a healthy environment.
- Language Arts: Students will generate text utilizing the Language Experience Approach (LEA), retelling scientific information they learned.
- Social Studies: Students will learn about neighborhoods, families, and specific ways for making their community a better place.
- Art: Students will practice drawing trees as a way to learn about the various parts of a tree.

Social Issue: Students will learn about the importance of trees to the environment and why neglecting and cutting down trees is harmful to the environment.

Service: Students will learn how to write a play and learn performance techniques in order to deliver a message to others about the importance of trees and how to take care of the trees in the community.

Content Standards: This service-learning activity provides an opportunity for students to help meet content standards in reading comprehension, vocabulary, and visual literacy. In addition, students also have an opportunity to work on developing and applying reading strategies to construct meaning from a variety of literature and other quality materials.

SCANS Skills: This service-learning activity can foster development of a variety of the SCANS foundational competencies including the development of basic skills, reading, writing, science, thinking skills, creativity, problem solving, seeing things in the mind's eye, reasoning, and responsibility. The activity can also help foster development of the SCANS competencies including managing resources and interpersonal skills.

KWL to measure Content Learning Objectives (e.g., in Science, their knowledge about trees):

K: What do you know about the trees in our neighborhood/community?

Group activity: The students can respond to this K by brainstorming what they know about trees while the teacher or teacher's aide captures the ideas on poster paper.

OR

Individual activity: Each student can respond to this K by drawing a picture that shows what s/he knows about trees.

W: What do you want to know about the trees in our neighborhood/ community?

Group activity: The students can respond to this W by brainstorming what they want to know about trees while the teacher or teacher's aide captures the ideas on poster paper. In this example, it would be appropriate to administer the K and W at the same time. It would also be appropriate to alternate from an individual activity for the K to a group activity for the W.

L: What have you learned about the trees in our neighborhood/community?

Group activity: The students discuss what they have learned about trees while the teacher or teacher's aide captures the ideas on poster paper; and/or

Individual activity: Each student draws a second picture that shows what s/he has learned about trees. Each child then explains (orally) the difference between the original picture s/he drew and the final picture.

It would be appropriate to engage students in either or both the group activity and the individual activity.

Anchor task: Each student shows understanding of the vocabulary related to trees by identifying the various objects in a tree collection box, for example: bark, branches, roots, photosynthesis, chlorophyll, seeds, seed pods, sprouting, leaves. The answers will be recorded by the teacher or teacher's aide and each student's level of understanding about trees will be assessed according to the number of items s/he is able to identify.

Other possible anchor tasks: The teacher could assign students a project where they must complete some artwork that is focused on trees. The teacher then assesses students' conceptual understanding from the art work.

Students could explain how each of the following professionals work with trees: landscape architect, environmentalist, Project WILD Educator, Geology Professor (Soil Specialty), Health Educator, Representative of nonprofit affiliated with trees (Tree Foundation), Professor of Forestry. Students' explanations would be tied into their understanding of different issues regarding trees (their importance for building homes, their importance to the ecosystem, etc.). Students could also define various terms: overuse, recycling, clear-cutting, pruning, topping.

Example developed by Candas E. Klosowski, Teacher, Mt. Vernon Elementary School, Bakersfield, CA

As the example shows, KWLs and anchor tasks can be used with very young students to assess their learning. The example also reveals that students do not have to respond to their KWL prompts in writing. Verbal responses to each of the prompts work just as well. The same is true for the anchor task. Example 5-5 utilizes a similar non-writing-based approach for the KWL. In this case, the KWL and anchor task are used to assess student learning in more than one learning dimension.

Assessing Multiple Learning Dimensions Example 5-5 describes how KWLs and anchor tasks can be used to assess students' learning of both the content and the social issue. In addition, as was mentioned earlier, this example reveals how the service activity itself can be used as the anchor task. The service activity can be used as an anchor task to assess student learning not just for the service dimension, but for the content and social issue dimensions as well. In Example 5-5, a fifth grade class is exploring the fragile nature of the wetlands and the importance that wetlands have to the health and stability of the environment. The students are using art, through a display at a local visitors' center, to provide information to the general public about the importance of the local wetlands. The service-learning activity is integrated with the Science and Art curricula and the learning objectives are focused on having students understand the wetland ecosystem (social issue) and how to use art to convey important messages to people

(content). The KWL-anchor task combination is used to assess students' learning of both the social issue and the content.

EXAMPLE 5-5

Using the KWL and Anchor Task to Measure the Learning of a Group of Students or an Entire Class (Focus: Content Learning and Social Issue)

Protecting San Diego Wetlands

Grade: 5

Subject: Science and Art

Identifying the Community Need: Students have come to learn that the public has little awareness of the fragile nature of wetlands and the importance that wetlands have to the health and stability of the environment. Students will design and install an art/poetry exhibit for public view as a way to raise attention and awareness of the wetlands' importance in maintaining the stability of the environment.

Learning Objective to be Assessed:

- 1) Students will understand the interdependence of all living things within the wetland ecosystem (including the watershed) and the impact of humans on that system.
- 2) Students will understand how art can be used to convey important messages to people.

Service: Students develop a public art exhibit for a local visitors center. The exhibit relays information about the importance of the wetlands to the health of the local environment.

Curricular Content: Science, Language Arts, Fine Arts (with Artist-in-Residence)

This service-learning activity provides an opportunity for students to achieve a number California's state content standards for Science

- Life Sciences: Plant and animals have structure for respiration, digestion, waste disposal, and transport of materials (standards a, e, f, g).
- Earth Sciences: Water on earth moves between the oceans and land through the process of evaporation and condensation (a, b, c, d, e).
- Investigation and Experimentation: Scientific progress is made by asking meaningful questions and conducting careful investigations (a, b).

KWL

The K of the KWL is conducted as a "carousel" brainstorming (each student gets an opportunity to provide input) followed by a class discussion. Questions for the K are posted around the room for response:

- K:**
- What do you know about the wetlands (lagoons) in our community?
 - How have people impacted the quality of our water?
 - Describe a powerful experience you have had in nature.
 - What do you know about who eats who in the food chain?
 - How do plants and animals adapt to survive?
 - Describe ways that art can teach us about important issues.

W: Students form small discussion groups and develop a list of things that they want to know about the Learning Objectives. These are then shared with the whole class and are placed on a class list.

For the L, students are asked in a carousel brainstorming activity to revisit the questions that were posted on the wall during the K, and are asked to provide responses to the following:

- L:**
- What did you learn about the wetlands (lagoons) in our community?
 - What have you learned about how people impact the quality of our water?
 - What have you learned about the power of nature?

- What have you learned about who eats who in the food chain?
- What have you learned about how plants and animals adapt to survive?
- What have you learned about the power of art and how it can teach us things about important issues?

While the teacher invites each student to contribute responses to questions of the KWL, the KWL approach is used in this example as a strategy for assessing the entire class' learning from the service-learning experience. (Other approaches are used to assess individual students' learning).

Anchor Task: In addition to the KWL, the teacher also employs an anchor task that allows the class to demonstrate that it (as a whole) has met the learning objectives of the class: 1) to learn about the interdependence of all living things within the wetland ecosystem and the impact of humans on that system; and (2) to learn how art can be used to convey important messages to people.

For this service-learning activity, the students' proper and appropriate installation of the public art exhibit at a local visitor's center (e.g., the displays are ordered correctly, the information on the displays is correct, etc.) as well as the depth of information students provide on the displays (e.g., simple transferring of information from a book versus thoughtful analysis of critical issues regarding the importance of the wetlands) demonstrates the degree to which the students (as a class) have met the learning objectives.

Example developed by Judy Leff, Teacher, Pacific View Elementary School, Encinitas Union Elementary School District, Encinitas, CA.

Overall, the five examples reveal how KWLs and anchor tasks take on many forms and are used in a variety of ways. Despite the differences in how the KWL-anchor task combination is used in different service-learning situations, a few things remain constant. In all cases, the KWLs and anchor tasks are based on the intended learning objectives of the class. And in all cases, the anchor tasks always seek to assess the same learning as the KWL with which it is coupled.

Despite the effective use of KWLs and anchor tasks in these examples, KWLs and anchor tasks are not always successful in capturing the more intricate details of student learning. For example, while the KWL-anchor task combination provides some indication of what students have learned about a specific set of issues or concepts, it does not explain why some students are learning the material and others are not. Additional investigation into the advantages and disadvantages of the KWL-anchor task combination needs to be conducted in order to obtain a more complete understanding of the strengths and weaknesses of this assessment approach.

Our Learning about Assessment

The study group's work shed light on a number of important issues regarding service-learning and assessment. Not only did it reveal the multi-dimensionality of student learning in service-learning, but it revealed how difficult it is to capture fully the learning in these various dimensions using traditional assessment strategies (multiple choice tests, etc.). The group's work also revealed how complex the concept of "learning" is. What does it mean when a student has "learned" something. And, if the assessment measure reveals that a student has not learned something, is it because the student did not apply himself/herself,

is it because the method of instruction was not effective, is it because the assessment tool was inadequate, or is it due to a combination of these issues?

Assessment is a complicated topic that requires more than a cursory investigation. The topic is further complicated by the fact that service-learning itself is a complex endeavor. This certainly made the work of the study group challenging. However, the individual and collective complexities of service-learning and assessment allowed the study group to delve deeply into a topic of great interest to the group. Although the study group vigorously investigated the topic of assessment and service-learning for a three year period, it barely scratched the surface of its complexities. And although the study group members gained significant knowledge about service-learning and assessment, they leave the group with additional questions about the topic.

Using the Study Group Process

The members of the California Study Group included eight teachers who utilized service-learning and six ad hoc members who were program evaluators, service-learning administrators, or other educational experts. While each of the teachers received a small stipend to cover the costs for substitute teachers, the ad hoc members volunteered their time to participate in the group. The first phase of the group's work focused on discussing the purpose of the study group, clarifying the group's goals as they related to the work of the National Study Group, and conducting broad discussions about student assessment, service-learning, and the nature of authentic assessments.

As the group entered into its second phase, it decided to split into two groups: a Northern California contingent and a Southern California contingent. Each subgroup's work would focus on the development of a rubric that could measure students' achievement of the state's five service-learning standards. However, as the work subgroups progressed, two things happened that would change the course of the study group process.

First, the focus on developing an assessment rubric for the state's service-learning standards was deemed fruitless by both subgroups. It became immediately apparent that the development of a separate set of rubrics for service-learning standards would send the message that service-learning is a separate rather than an integral part of the curriculum. The members' belief that service-learning is inextricably linked to the curriculum played an important role in the development of the three-pronged learning dimensions conceptual framework.

Second, the members of both the north and south study subgroups felt that the collegial nature of the first few study group meetings had been lost when the full study group was divided in two. A number of the members expressed that they no longer felt part of a "statewide" assessment group, but rather they now felt part of a "local" group. This was a less appealing prospect to most, and many members indicated that they missed the range of perspectives and collegiality that they were a

part of during the first meeting. The north and south subgroups were soon rejoined to reconvene as a statewide study group.

The reconfiguration of the study group as one working body proved to be a positive step on all fronts. The ultimate success of the study group rested on the fact that the group members felt they controlled the focus and destiny of the study group. While a member of the Service-Learning Research and Development Center UC Berkeley was the group's coordinator and facilitator, the study group members (both the stipended and ad hoc members) were the leaders of the group. As a neutral territory, the study group provided the members with opportunities to express their opinions without fear of having to endure long-term professional consequences or personal rebuke. As equal partners, the level of trust among the members was high. And while there were many disagreements among members regarding which assessment approaches should be pursued, the disagreements were healthy debates about critical issues regarding authentic assessment in service-learning.

The mutual respect the members developed for one another, the ability of the members to agree to disagree, and the high level of commitment each member brought to the group all served to bond the group members personally and professionally far beyond the scope of the assessment issues presented in the study group. The study group process did more than develop assessment tools for service-learning; it provided an enriching professional development opportunity for educators who are committed to improving the education of students. To this end, the development of tools for the assessment of students in service-learning was the context around which a collegial and collaborative forum was built, a forum that engaged educators in intellectual discourse and professional dialogue about critical issues related to the improvement of student learning and the advancement of teaching.

As a full group, the members of the study group engaged in a variety of in-depth philosophical and practical discussions about the purposes of education, the role of service-learning in K-12 schools, the aspects of student learning as they relate to service-learning, and various strategies for assessing student learning. Because almost all of the members worked in schools or school districts on a daily basis, they brought with them an enormous passion for the issues that were discussed. The depth and scope of the discussions were impressive, and in many instances paralleled a graduate school seminar in Education. The group's work did not necessarily focus on getting a product completed (e.g., this chapter), but rather it focused on engaging the members in an in-depth, thorough analysis of critical issues regarding authentic assessment in service-learning.

For most of the members, the study group process went beyond studying assessment in the context of service-learning. The process facilitated educators in the investigation of relevant issues through a comfortable, collegial forum. The bonding process among the members played an important role in the success of the group and the ultimate product it delivered. The members of the group appreciated the opportunity to reflect on critical issues and to express themselves freely. They enjoyed

the opportunity to test ideas, study them systematically, and receive feedback from their peers. These peers became “critical friends” whose opinions and perspectives were respected and whose advice was heeded.

As the work of the group draws to a close, the members have expressed an interest in continuing the work of the group beyond the grant period. Without exception, all the members of the group felt that their participation in the study group was a professionally valuable and personally rewarding experience. The members would like to keep the group intact to study other issues related to service-learning. The group generated a list of potential study topics that were equally as broad and complex as studying service-learning and student assessment. Efforts are underway to explore ways in which the same individuals can be reconvened to form a new study group on a particular topic of interest.

Conclusion

The study group process was an effective way to engage educators in a critical analysis of issues that are important to the work they do. The California Study Group’s focus on KWLs and anchor tasks revealed important information about the use of these strategies for assessing student learning in service-learning. In addition, through the work of the group, the three learning dimensions of service-learning were identified and placed in a conceptual framework. Many service-learning practitioners have found this conceptual framework to be very useful in providing a better understanding of the various facets of service-learning. Overall, the study group established a strong foundation for advancing our understanding of the use of KWLs and anchor tasks to assess student learning in service-learning.

The work of the study group revealed that KWLs and anchor tasks are universal assessment strategies that can be used in any classroom that uses service-learning. Because they are strategies and not actual instruments, the KWL and the anchor task are meant to be adapted to the particular context in which they are being used. Whether the service-learning projects are short-term or long-term, whether they involve kindergarten students or high school seniors, whether they are complex projects or more simple community-based activities, appropriate KWLs and anchor tasks can be designed to align with the learning objectives of the service-learning activity. When the two strategies are used jointly, an effective assessment strategy for assessing student learning in service-learning is developed. As the field of service-learning grows, our hope is that our experience will inspire others to further explore best practices for using KWLs and anchor tasks to assess students’ learning.

6

INVITATION TO LEARN: INVOLVING STUDENTS IN THE ASSESSMENT PROCESS

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Abstract

Vermont offers an example of experienced teachers seeking to articulate how they link service, assessment and student learning. For the six teachers in the Vermont study group, assessment is first and foremost about helping students learn. The chapter explores how these teachers keep students at the center of the assessment process by actively involving students in that process from the beginning. While remaining “student-centered”, these teachers address state standards by collecting rich evidence of student learning from a variety of sources.

In this chapter, the teachers design and assess a service-learning unit centered on gardens and connected to state standards. Their work is derived from garden units they have done with students or adapted from their other service-learning projects to fit the garden model. They introduce their assumptions about assessment, plan a standards-based unit using a curriculum planning tool, and supply examples of learning activities and related assessments for fourth and ninth grade students.

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State Context

Like other states, Vermont has adopted standards to serve as an educational framework. Vermont's *Framework of Standards and Learning Opportunities* is distinguished from that of some states by its relative brevity and its three-tiered focus. In addition to broad standards articulated for the "Fields of Knowledge" (Arts, Language and Literature, History and Social Studies, and Science, Mathematics and Technology), there are also standards for the "Vital Results" that span all fields of knowledge (Communication, Reasoning and Problem Solving, Personal Development, and Civic and Social Responsibility). Finally, the Vermont document details "Learning Opportunities" (teaching strategies and learning experiences) that show various ways to achieve the standards. Many teachers have found this last part of the *Framework* most useful; it has served as a unifying element for teachers across schools. Because Vermont is a small state, many teachers involved in service-learning know each other well; the consistency in their thinking was apparent throughout their work together.

AN INVITATION TO LEARN:

INVOLVING STUDENTS IN THE ASSESSMENT PROCESS

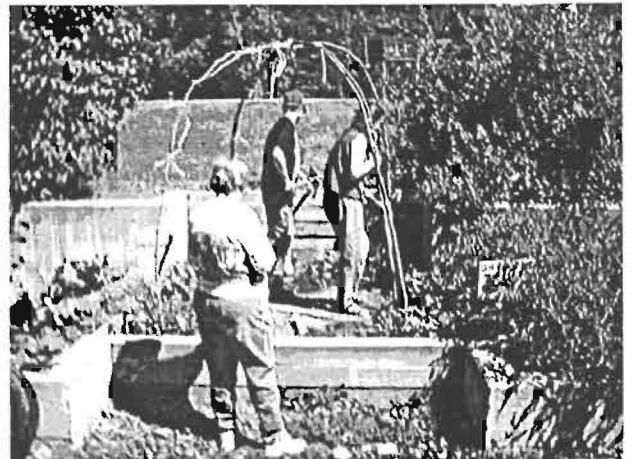
Introduction

Vermont's study group includes six teachers who have practiced service-learning for several years. Many of their service projects have focused on land use issues. Students in Randolph studied a local river system; Barre Town students researched historical land use and interviewed residents involved in the Civilian Conservation Corps. Teachers from Guilford, Bellows Falls, and Peacham integrated garden units in their curricula that expanded into service opportunities such as hosting a hunger banquet and engaging in extensive school and town beautification projects.

Rather than trying to cover all these projects in a single chapter, the group chose to focus their chapter on gardening connected to the community. They felt that by designing a sample "unit of study" around gardens, they could incorporate what they had collectively learned about assessing student learning through service but still keep the chapter simple and tied to state standards (a current mandate for Vermont teachers).

The planning tool they used in their collaborative design of the Garden Unit was a series of questions devised by the National Study Group to encourage the alignment of standards with service, student work, and assessment. Eventually the group switched over to the planning tool from *Vermont's Framework of Standards and Learning Opportunities* because it represented approximately the same list of questions in a graphic format, and had the added advantage of familiarity to Vermont teachers.

In their rich discussions about assessment and how they practice it, the teachers discovered that they all believe the most important purpose of assessment is *to provide feedback to students about how they are doing*. They also strongly believe in the importance of *multiple sources of evidence* — written, spoken, observed, acted — to demonstrate student knowledge and skills. With this tenet at the core of their teaching practice, they realized they could not specify a single assessment tool or set of tools they felt would work in every service-learning setting. Nor could they separate what was being assessed from what was being taught. They viewed assessment as a process to *help students be successful* rather than a way to sort them into "winners and losers". Although most of these teachers still ultimately assign grades as part of their overall feedback, they feel more comfortable with the grading process knowing they have multiple pieces of evidence upon which to base these judgments. This chapter distills what they have learned and offers a *student-centered approach* to assessment of learning through service.



In Guilford, Vermont, a community volunteer looks on as two middle school students cultivate the beans that will cover the "bean arbor" at Guilford Central School. GCS hosts an annual service-learning summer institute that gives staff and community members time to plan how to integrate service-learning into the curriculum.

Our Assumptions about Assessment

As teachers we face common issues as we integrate service-learning into the curriculum and try to assess student learning through service:

- We want our students to be engaged in their learning and excited about what they are doing.
- We want our students to learn content and develop skills.
- We have students with a wide range of backgrounds, skill levels, and learning styles, and somehow we have to provide an opportunity for all of them to achieve the standards that our state and district feel are most important.
- We need to find ways for our students to demonstrate that they have achieved those standards.

The teachers in the Vermont local study group share certain assumptions about teaching and classroom context that affect our attitude towards assessment. Our classrooms are “kid-centered;” we perceive our students as capable people and encourage them to become experts in their chosen areas. We honor the concepts of multiple intelligence and learning styles. We establish classrooms in which kids are part of the process of developing the culture, the rules, and the evaluation procedures. We believe that our students need to be interested —“hooked”—in order to learn. Therefore, we believe that *students can and should be involved in the whole assessment process*, including:

Franklin: “Assessment is about helping my students know what they know. It’s not just holding them accountable for some unknown, there is no ‘secret list’ in my mind.”

- identifying the goals of a project/unit/piece of curriculum;
- describing in their own words the standards that should be met;
- looking collectively at examples of work that meet those standards (benchmarks); and
- developing in advance a rubric, checklist, or set of goals that will be used to evaluate their work.

In this way, assessment becomes an invitation into the learning process: Where are we now? Where can we go? How are we doing? We can easily explain progress or lack of it to students and parents when we can point to standards we and the students agreed to target, and show concrete examples of what achievement looks like.

We cannot separate assessment from what we’re trying to teach (standards and curriculum), how we are teaching it (learning opportunities), and student work (products and performances). Shown in **Table 6-1** are some of our other assumptions about assessment. They apply to whatever assessment happens in our classrooms, during service learning or any other kind.

Table 6-1: Assumptions about Assessment in the Vermont Local Study Group.

The purpose of assessment is feedback.	⇒ Students need feedback about how they are doing based on comprehensible standards.
Students need to know what is being assessed <i>up front</i>.	⇒ Learning expectations are explicit at the beginning; they can be expanded as a project develops, but they should never be a mystery to the student.
Students can be involved in the whole assessment process from the start.	⇒ Helped by a teacher, students can choose standards and define criteria for good work as a project or unit begins.
Students and teachers <i>both</i> have input into choices about standards and about how achievement will be demonstrated.	⇒ To honor different learning styles and multiple intelligences, teachers can offer choices about how students will show evidence of learning (writing, art, music, oral presentation, interview) whenever possible.
Valid assessment is based on multiple points of evidence over time; students play a part in this.	⇒ Peer and self assessment by students, oral interviews, observation by teachers and others, journal reflection, and tests are all valid ways to assess student learning; the more methods used over time, the fuller the picture of student progress.
Students need feedback about both content and skills—but <i>not all the time or all at once</i>.	⇒ If teachers limit what they choose to assess at one time, students can absorb the feedback more readily and the purpose of the assessment remains clear to both teacher and student.

The Planning Process

When we talked about how service-learning projects are planned, we realized that the process is recursive and cyclical rather than linear. The *Vermont Framework of Standards and Learning Opportunities*, distributed to all Vermont teachers, provides a graphic tool to help the planning process (see **Figure 6-1**). We like the tool because it allows us to start planning “anywhere”—from standards or learning activities to student concerns or community resources—according to our current needs. No matter where we start the planning process, the tool reminds us of all the other considerations we need to keep in mind.

Developing a Service-Learning Unit for Gardens

In the rest of this chapter, we look at two garden units developed collaboratively by teachers. One unit is designed for elementary level; the other for high school. We include learning activities and evidence of learning for some of the many learning goals to which these kinds of activities lend themselves, and we suggest some assessment tools or processes that can be used at each stage of learning. We include teacher tips and stories to add a further layer of experience from the field. To show how we use the planning tool to develop different aspects of the

unit, we use a small icon that highlights the part of the planning tool we are currently “filling in.”

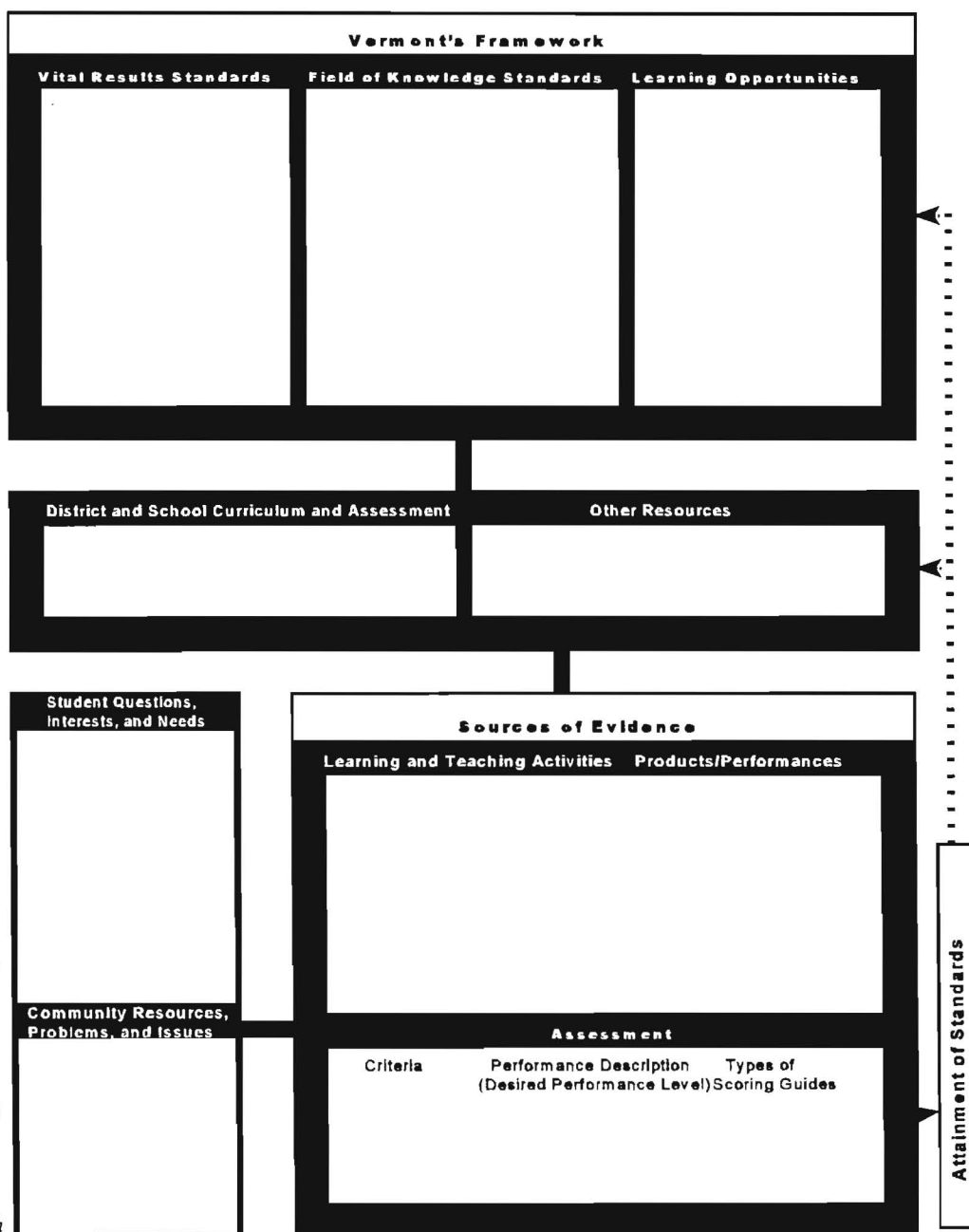


Figure 6-1: The “Core Connections Planning Tool” (from the Vermont Framework of Standards and Learning Opportunities). This tool helps Vermont teachers align targeted standards with learning opportunities and assessment strategies, while keeping in mind all the other elements (student interest, community and other resources, and so on) that also affect the planning process. (Appendix B shows the Planning Tool filled in with some brief explanations and examples.)



Community Resources, Problems and Issues

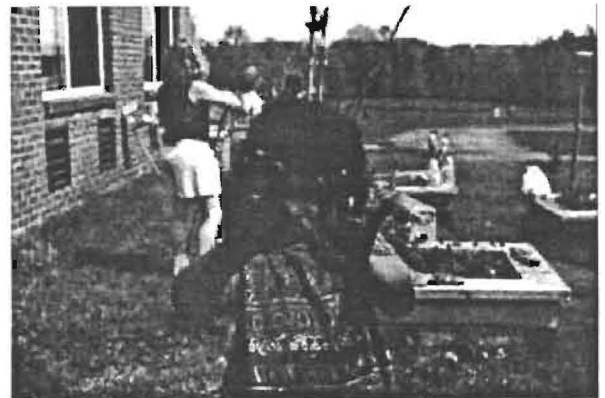
To help beautify the school and continue their study of soil and plant growth, Margaret Dale's fifth grade class helped design and plant a perennial garden full of irises, tulips, and interesting foliage. At the previous summer institute for school staff and the local community, Margaret Dale discovered that Bev, one of the school bus drivers, loved and was an expert in flower arranging. The following spring, as part of a geometry unit, she invited Bev to teach her class the principles of flower arrangement using the flowers that were now blooming in their perennial garden.

Service-learning projects often start with some need or issue expressed by a community member or local organization. Our garden examples begin when school staff, students and community members express a need for beautification of the school grounds and development of outdoor learning centers. Our plan makes use of community expertise in gardening and agriculture, and community volunteers who will become mentors to students during the project.

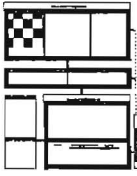


Student Questions, Concerns and Issues

Fourth graders decide to create a garden in a space between the two front entrances of the school; ninth graders are interested in designing several "literary inspiration" gardens as outdoor learning centers for the elementary school. Both groups, with the help of their teachers, will establish learning goals based on the Vermont standards and their own particular needs and interests. The standards they will focus on during this unit are described on the following pages.



When Margaret Dale's students were finished with their arrangements, they were proud and wanted to share them somehow. They thought of delivering their flowers to house-bound elders in the community whom they had previously visited, "so even people who can't come to it would get to enjoy the garden." To accompany the flower arrangements, the students wrote cards explaining what they had learned about flower arrangement and design from Bev. Margaret Dale used this opportunity to observe how they described what they had learned in their own words.



Vital Results Standards

The standards we refer to in Vermont as “Vital Results” include what students should be able to *do*. These are essential skills that are not limited to any single field of knowledge (what students should *know*), but are relevant in all learning. They include standards related to the student’s ability to communicate, reason, investigate and solve problems. They also relate to behavior and attitude that affect a student’s success both in and outside of school—standards of personal development and civic and social responsibility.

Involvement in service-learning affords students the opportunity to develop these skills and learn to become socially responsible individuals. In planning our garden unit, we chose to focus on two of these Vital Results standards, shown in Figure 6-2.

Reasoning & Problem Solving Standards

Problem Solving Process

2.2 *Students use reasoning strategies, knowledge, and common sense to solve complex problems related to all fields of knowledge. This is evident when students:*

- a. Use information from reliable sources including knowledge, observation, & trying things out;
- b. Use a variety of approaches to solve problems;
- c. Justify and verify answers and solutions;
- f. Implement an approach that addresses the problem being posed; and
- g. Use manipulative, sketches, webs, etc. to model problems.

Personal Development Standards

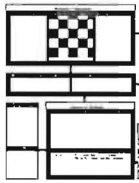
Relationships/Teamwork

3.10 *Students perform effectively on teams that set and achieve goals, conduct investigations, solve problems and create solutions (e.g. by using consensus - building and cooperation to work toward group decisions).*

Figure 6-2: Two Vital Results standards that the garden unit will address and assess. (See “Defining Standards and Criteria with Students” later in this chapter.)

When Franklin took his fifth/sixth grade class out to a farm several times over the course of the school year, he was able to observe them doing activities that could not have happened in the classroom, such as helping each other identify plants using the “square foot inventory” in different parts of the farm habitat, writing in their reflection journals about changes they saw around them on the farm, and brainstorming a list of ways they might be able to help the farmer. Several of these observations became the basis for his assessment of students’ growth in personal and social development that were central to the Work Sampling System adopted by his school.





Field of Knowledge Standards

Field of Knowledge standards in the *Vermont Framework* describe what students should *know*.

Fourth Grade: The fourth grade garden project will be integrated with the science curriculum through their units of study on plants, weather, and climate. Learning activities in the fourth grade will address specific science objectives related to plant cycles, and “The Living World” standards about organisms, evolution and interdependence (shown in **Figure 6-3**). Group presentations will culminate the planning segment of the garden unit.

The Living World

Organisms, Evolution, and Interdependence

7.13 Students understand the characteristics of organisms, see patterns of similarity and differences among living organisms, understand the role of evolution, and recognize the interdependence of all systems that support life. This is evident when students:

- a. Identify characteristics of organisms (e.g., needs, environments that meet them; structures, especially senses; variation and behaviors, inherited and learned);
- b. Categorize living organisms (e.g., plants; fruits, vegetables);

Figure 6-3: Some Vermont Science, Math, and Technology Standards that could be addressed and assessed by the elementary garden unit.

Ninth Grade: The ninth grade class will incorporate their recent study of plant biology and micro-climate with their current Language Arts study of poetry and literature. Learning activities in the ninth grade will address Arts, Language and Literature Standards such as those shown in **Figure 6-4**. Such activities may include discussions, lectures, group work, research, journal prompts, story writing, and student presentations to the “garden committee” composed of community members.

Critical Response

Aesthetic Judgment

5.4 Students form aesthetic judgment, using appropriate vocabulary and background knowledge to critique their own work and the work of others, and to support their perception of work in the arts, language and literature.

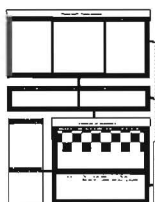
Literature and Media

Literary Elements and Devices

5.11 Students use literary elements and devices — including theme, plot, style, imagery, and metaphor — to analyze, compare, interpret, and create literature.

Figure 6-4: Arts, Language and Literature Standards to be addressed and assessed during the ninth grade garden unit.

SOURCES OF EVIDENCE:



Learning Activities and Products/performances

Learning activities address specific standards and result in student products or performances that can be used to evaluate achievement of those standards. For any area of study, countless activities can address different standards and appeal to different learning needs. We identify many potential activities related to gardens in **Table 6-2** below, along with products and performances that allow for multiple intelligences and learning styles, and a rich picture of student achievement. While no class would do all of these, this extensive list demonstrates that many different standards and desired results can be addressed within a single unit; in each case, students produce evidence that demonstrates their learning. Whenever possible, *students are offered choices* about which product/performance they will use to demonstrate mastery.

Table 6-2: Potential Activities and Products/Performances for a Garden Unit

LEARNING ACTIVITIES	PRODUCTS /PERFORMANCES
Related to Vital Results Standards	
◆ Students and teacher establish criteria for teamwork/problem solving/social responsibility standard	<i>Brainstormed lists; checklist</i>
◆ Study local poverty issues; survey community about food needs or resources	<i>Notes; Survey results</i>
◆ Work in teams to map/design/prepare/plant gardens	<i>Group garden maps; designs; gardens</i>
◆ Enter survey results in database/spreadsheet and create graphs	<i>Data graphs</i>
◆ Discuss findings and reflect on ways to address local poverty	<i>Journals; skits; songs; class discussion</i>
◆ Create a community gift garden based on survey results	<i>Planted garden; garden produce</i>
◆ Donate gifts of food and flower arrangements to local seniors or community agencies	<i>Flower arrangements; shut in visits; journal entries; presentations</i>
Related to Science/Math/Technology standards	
◆ Track plant progress from germination in grow labs	<i>Journal entries; sketches; graphs</i>
◆ Dissect and draw a variety of seeds	<i>Labeled drawings or seed collages</i>
◆ Conduct experiments to determine soil quality, acidity, balance of nutrients	<i>Lab report; soil tests</i>
◆ Insect study: Pollinators and pests in the garden	<i>Daily journal entries; Sketches; Graphs; Skits/Plays; Songs</i>

LEARNING ACTIVITIES	PRODUCTS /PERFORMANCES
♦ Map area chosen for garden: approaches and boundaries, vegetation, sun arc and climate data	<i>Maps</i>
♦ Conduct square foot inventory of garden spaces	<i>Inventory</i>
♦ Visit and observe local gardens/nurseries	<i>Journal entries; Sketches</i>
♦ Interview mentors from community who have expertise in plants/gardens	<i>Taped interviews; Notes; Reports</i>

Related to Literature/Arts Standards

♦ Read nature/garden writing and poetry; respond in journals or class discussions	<i>Journals; Class discussion</i>
♦ Write a story, poetry or songs related to nature, gardens	<i>Stories; Poems; Songs</i>
♦ Research and design a garden to inspire reading/writing/speaking/listening	<i>Garden designs</i>
♦ Research and design Colonial or Japanese or European Garden	<i>Designs; Research notes</i>
♦ Write a procedure for growing and maintaining a garden	<i>Garden manual</i>
♦ Read or teach your song/story to a younger partner	<i>Mentoring</i>
♦ Create a plan for planting and maintaining your garden, including names/times for those responsible	<i>Plan; Maintenance schedule; Timeline</i>
♦ Study gardening/agriculture in other societies; choose a format to show your learning	<i>Play; Song; Story; Picture; Diorama; Research report</i>
♦ Create a soundtrack to listen to while sitting in your garden	<i>Audiotape of songs, poems, or sounds of nature (e.g., bird songs to listen for)</i>
♦ Present what you learned during the garden unit to a gathering of parents and community members.	<i>Presentation; Visuals; Overheads; Performances of songs/plays/readings</i>

During a service-learning unit on rivers, Sharon's ninth graders wrote children's stories about the river, which they later read (and presented as gifts) to local elementary classes. For gardens, students could write and illustrate stories about creatures and plants that live in the garden they design. They could research local gardens; draw, photograph or inventory local flora and fauna; and create boxes for their stories to live in at the outdoor learning center site. Copies of their children's books could be included in their final presentations to the garden committee. As she did with their river stories, Sharon would help them develop their own checklists of voice, tone, and style elements, as well as principles of artistic design, to compare with each new draft. In this way Sharon uses assessment continuously during the learning activity to reinforce what the students are learning and inform them about their progress.

Example Learning Activities for the Garden Unit

We chose one learning activity to elaborate from each standards area above, showing how we might conduct the activity in our classroom. We include tips we have gained while engaged in learning activities like these.

1. Vital Results Standards

Defining Standards and Criteria with Students

Margaret: "What [teachers] need is good examples of how to elevate the importance of these kinds of [Vital Results] skills and assess them. So I think it's more about involving the kids in the process, looking at things like initiative, social/personal development, civic and social responsibility standards, and having them be as important as reading and writing and math standards."

Because students will often work in groups during the garden unit, it can be useful to revisit what quality group work looks like. In the following learning activity for elementary grades, the students define (with the teacher's help) criteria for the personal development standard of "Relationships / Teamwork" from the Vital Results Standards:

Students perform effectively on teams that set and achieve goals, conduct investigations, solve problems and create solutions (e.g, by using consensus-building and cooperation to work toward group decisions).

In a group brainstorm session, the teacher or a student draws a "T" on the board and lists student suggestions for what quality team work would look and sound like (Figure 6-5). When the lists are complete, students select the list of behaviors they believe are most important and observable. This helps develop clear descriptive criteria that students can understand.

Based on the list, the students and teacher create a rubric or checklist that describes these behaviors in a positive way. The most useful descriptions on checklists of this sort employ specific language to describe expectations. The checklist shown in Figure 6-6 is one example.



Looks like...	Sounds like...
People take turns talking, nobody interrupts	People repeat or rephrase what they hear to show they understand
People look each other in the eye. Everyone is looking at the person talking	"That's a good idea-- maybe we can combine our plans"
Each person contributes according to what they are best at doing	Even if someone is silent, they could be taking notes
People hand in their work on time	"To build on your idea, we could..."
No one is sitting off in the corner	"I'd like to hear what Sarah has to say..."
	"What do the rest of you think of this idea?"

Figure 6-5: A "T-Chart" listing specific criteria suggested by students for the "Relationships/Teamwork" standard.

Group Cooperation Checklist				
Group members:	Never	Sometimes	Frequently	Always
Listen to each other and restate what they hear.	1	2	3	4
Focus on the subject of discussion.	1	2	3	4
Offer helpful suggestions like, "There's another way to say this," or "To build on your idea..."	1	2	3	4
Include all members in the decision-making process.	1	2	3	4
Use their abilities to contribute to the group.	1	2	3	4
Reliably produce work on time.	1	2	3	4

Figure 6-6: A group cooperation checklist resulting from student/teacher brainstorm session.

Products/Performances

Participation in group process to define a standard.

Assessment Strategies

The teacher would probably not choose to grade participation in this process as part of the garden unit. Instead, the teacher, students, and community members could use the *resulting checklist* as a student-defined assessment tool with which to observe and assess quality group work during the unit. Because group participation counts as a significant percentage of the final grade or evaluation, the teacher informs students about this percentage *before* group work begins.

During her Rivers Unit, Sharon's students worked in groups, taking turns collecting water samples from various locations. Students understood that if they didn't do their jobs well, their group data would be inaccurate. Each group used a checklist like the one above three times during the Rivers Unit to assess their own and their teammates levels of cooperation. These formed part of the evidence Sharon collected on which their final grades were based, and also permitted Sharon to stay in touch with each group and intervene if a group was having difficulty. The same checklist could be used for group work on the garden.

2. Science/Math/Technology Standards

Map Area Chosen For Garden

The map done by each student is the first piece of work that will be assessed during the garden unit in the fourth grade. The students know that the map will be an important part of their final evaluation and that preparing a good map will allow them to create a successful garden. The map requires complex information about boundaries, vegetation, sun arc, and climate data. Three specific activities are required before students draw the final draft of the map (Table 6-3).

Table 6-3: Garden Site Tours with Associated Products/Performances

ACTIVITY: SITE TOURS	PRODUCTS /PERFORMANCES (Choose 2 for each section)
Approaches and Boundaries: View and sketch site from various angles (close and far); record important features and changes you would make.	<ul style="list-style-type: none">• <i>Group notes about site positives/negatives</i>• <i>Sketches</i>• <i>Individual journal entries</i>• <i>Teacher/student observation of group work</i>• <i>Oral presentation of findings</i>
Vegetation and Sun Arc: Locate and identify on a sketched map all plants; note whether they are growing well or poorly. Trace Sun Arc for garden site to determine what parts of site are in sun or shade at any season of the year (e.g., use shelf paper and have a friend trace your shadow at different times of day).	<ul style="list-style-type: none">• <i>Group lists of identified plants</i>• <i>Site sketches</i>• <i>Notes about seasonal sun and shade</i>• <i>Summary of important findings</i>• <i>Shelf paper tracings</i>• <i>Teacher/student observation of group work</i>• <i>Individual journal entries</i>
Climate and Microclimate: Use a variety of resources to collect data about the climate of the region (# of frost-free days, first and last frost, avg. temperatures and rainfall, hottest/coldest and driest/wettest months, and plant hardiness zone). Note microclimate of site (urban/rural, wind, exposure, nearby buildings providing heat and shelter, etc.).	<ul style="list-style-type: none">• <i>Completed regional climate data questionnaire</i>• <i>Storyboard: description of an ant's life in this garden each month of the year</i>• <i>Microclimate notes</i>• <i>Oral presentation of important findings</i>• <i>Individual journal entries</i>

Products/Performances

Students work in groups but produce individual products. They know they will be evaluated by their peers and the teacher on teamwork. Students may choose two of the listed product and performance options for each activity. Because these are preliminary to the creation of the culminating product (the complete garden map), the teacher and fellow students offer feedback on these, but they are not formally graded.

Assessment Strategies

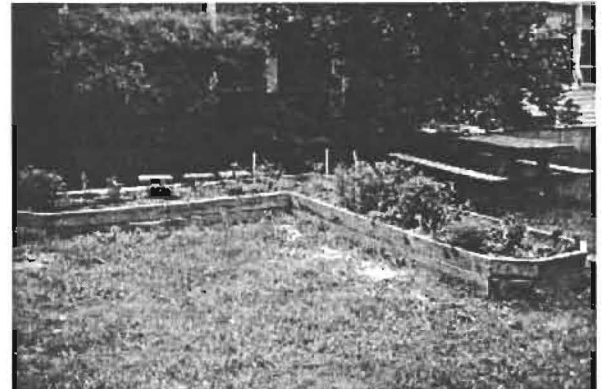
Once the three activities have been done by all students individually and in their groups, the teacher and students together create a criteria list defining the standards for a quality map. The resulting

checklist or rubric lets students know how to achieve the standard and suggests ways to move beyond it. Students are encouraged to work on their maps *until the standard is achieved* (Figure 6-7).

ACHIEVED THE STANDARD BY DRAWING A MAP THAT SHOWS:	Max. Score	Student Score
Boundaries: All outside boundaries correctly measured, with expected sun arc curves for April to August	10	
Vegetation: Location and names of plants that already grow in the garden space	10	
Climate: A color key describing microclimate data (see example).	10	
EXCEEDED THE STANDARD BY:		
Boundaries: Creating transparent overlays to show sun arc/shadows	5	
Vegetation: Including drawings or photos of existing plants	5	
Climate: Including extra information about climate data gathered from external resources or keeping Ant's Life Journal (see below)	5	
[Teacher or students fill in...]	?	
A=35-40+ B=25-34 C=15-24 <15 Has not sufficiently met the standard Final Score:		

Figure 6-7: An example of a checklist designed by teacher and students to show how to meet (and exceed) a standard.

Revell plans to give her fourth grade class the option of keeping a journal describing an ant's life in their garden each month of the year as part of their microclimate survey of the garden site. The students who choose the option will keep a regular weather and microclimate data log on which to base their imagined ant lives. The journals would be assessed based on the accuracy and frequency of microclimate observations and how imaginatively they used the data to inform their ant journals. She would encourage them to include carefully observed insect drawings or collages of ant life assembled from nature magazines or web sites.



3. Arts, Language, and Literature Standards

Research and Design a Garden to Inspire Reading/Writing/Speaking/Listening

The group and individual activities for the ninth grade Language Arts class shown in **Table 6-4** occur after some initial site exploration and class discussions about what a successful “literary inspiration garden” might be like.

Table 6-4: Sample Activities and Products/Performances for 9th Grade Garden Unit.

LEARNING ACTIVITIES	PRODUCTS /PERFORMANCES
Choose best map from your group to represent area; make 5 copies per member; begin to play with ideas for garden inspiration, considering purpose, elements of design, how your garden will inspire reading/writing/speaking/listening	<ul style="list-style-type: none"> • <i>Annotated maps</i> • <i>Journal entries (responding to prompts)</i> • <i>Poems or Songs</i> • <i>Essay or test on design elements</i> • <i>Criteria list for good design</i>
Listen to and question guest speakers; take notes ; write responses in journals	<ul style="list-style-type: none"> • <i>Journal responses</i> • <i>Notes</i>
Share maps with members/advisors; combine ideas, show your combined plan to at least 2 adults and 2 children for ideas/feedback.	<ul style="list-style-type: none"> • <i>Combined group map</i> • <i>Notes on responses from adults/children</i> • <i>Selection of music, literature or art to include at your site</i> • <i>Student presentation about your plan</i>
Revise your map according to feedback. Get advice from an expert source. Include a materials list and cost estimate (for different qualities of output), and list steps and potential problems. Consider building permits and ecological impact. Finally, show your map and plans to your group mentor.	<ul style="list-style-type: none"> • <i>Journal prompts about feedback</i> • <i>Revised map</i> • <i>Materials list and plans</i> • <i>Low and High Cost estimates</i> • <i>Mentor checklist for group assignment (see)</i>
Present final plan for garden committee review. Write or present a summary of plan, including a rough schedule for progress during school year. You may choose the format for your part of the presentation in an area of your strength (written, oral, visual, musical, etc.)	<ul style="list-style-type: none"> • <i>Executive summary or speech/presentation</i> • <i>Detailed site tour</i> • <i>Visuals and/or music</i> • <i>Final plan, signed by group, mentor, and expert, and submitted to garden review committee</i>

Products/Performances

Students are assigned certain product/performance options and choose others for each activity. Because they are working in groups, their individual work is often essential to successful completion of a group activity. The students receive continuous feedback on their work during each activity from teacher, peers, and mentors.

Assessment Strategies

The final plan submitted by each group will be assessed by the garden committee and the teacher based on established criteria. At the culmination of the unit the students are assessed on their

cumulative work as follows:

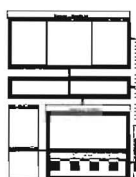
- Group cooperation and teamwork (based on peer and teacher observations and checklists)
- Self evaluation (student assigns a grade for the work she/he accomplished)
- Individual work in achieving group results (e.g., sketches, journal entries, site tours, final presentation, etc.) assessed by teacher based on established criteria.
- Mentor feedback (according to checklist)

The resulting grades from each source are averaged to produce the final grade (**Figure 6-8**).

Garden Report Card for _____ (Student name)	
Arts and the Gardens	
Task Description	Maximum Points
Team work and cooperation	20
Constructive use of work time	10
Product completed on time and in final form	10
Vocabulary neat and complete	10
Landscape sheet complete	10
Self evaluation complete	10
Mentor feedback	10
Use of creative expression	10
STUDENT	TEACHER(S)
Grade _____	_____

Figure 6-8: A sample "report card" used to determine a cumulative grade for the ninth grade "Arts and the Gardens" unit. Each component is weighted according to learning goals discussed at the outset of the unit.

SOURCES OF EVIDENCE:



Assessment (*Criteria, Performance Description, Scoring Guides*)

As you have seen, we gather evidence and give student feedback at many points along the way, looking at journal entries, notes, and drawings, observing group participation, and encouraging students to look at each other's work. This assessment process happens continuously, both formally and informally, throughout the unit. Here are a few observations that help us make sense of this process:

Limiting Assessment and Targeting Specific Standards:

We only use rubrics and scoring guides when we are targeting a specific standard, and we use them to make the standard clear to the student at the outset. Individual teachers decide ahead of time which standards they will assess. Throughout the unit, continual discussions about quality work clarify for each student what he or she needs to do to achieve a targeted standard or learning goal. We provide constant feedback in our comments, praise and suggestions for improvement when we look at each student's work. We encourage students and mentors to offer constructive feedback as well. We give oral or written tests or quizzes about content knowledge when appropriate.

Student Choice of Product/Performance:

For each activity we try to provide students choice in how they will demonstrate learning so that students can show what they learned even if they have difficulty with a particular form of communication (e.g., test responses, writing, oral interviews, etc.). While we encourage our students to improve all their communication skills, *we are careful to differentiate between what students have learned and their skill level at communicating what they have learned.*

Multiple Sources of Evidence:

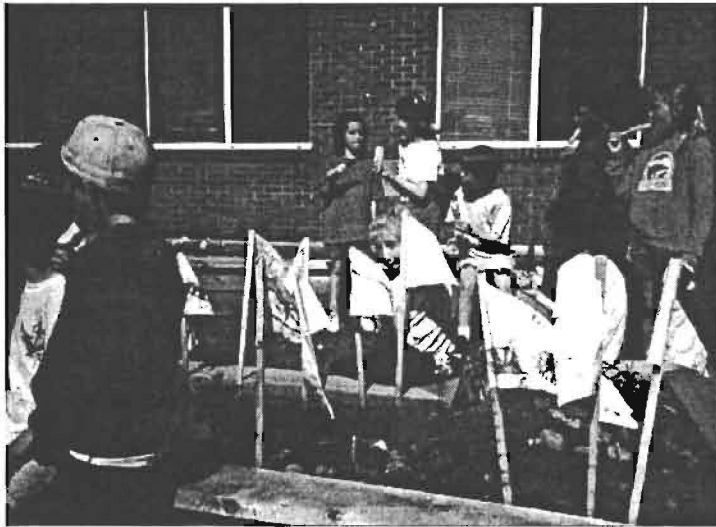
We try to collect evidence from more than one source to provide a richer picture of student achievement. In both the fourth and ninth grade garden units, peer and mentor feedback in addition to teacher observation and self-evaluation have a role in evaluating overall student achievement.

Culminating Student Work and Reflection:

At the end of the garden unit there is a culminating piece such as a presentation or performance that allows the students to synthesize what they have learned and reflect on how it has affected them. This counts as a more formal "summative" assessment for the unit. We also encourage student reflection about what is being learned by asking students to choose three or four pieces of work to include in their student portfolios. The work they choose is not necessarily

their “best” work; it is often a piece of work they feel shows the most learning or progress. Often they will write a short paragraph about each piece, or orally describe why they included it during a parent-teacher conference. Students may also present their work to parents and community members during a special event.

On a spring evening at Bellows Falls Central Elementary School, parents, children, teachers and community members came together and enjoyed a delicious spaghetti supper as a final celebration of the “Food For All” school-wide service learning project. The tomatoes for the sauce came from last year’s school garden, as did the basil used in the pesto. Lettuce and spinach for the salad bar were grown in the classroom grow-labs by kindergarten children as part of a plant study unit, and many teachers helped the children prepare vegetables for the salad bar as a culminating activity in their study of nutrition and world hunger. The gym cafeteria was decorated beautifully with murals made by all the different classes in the school. The garden supper served as a means to provide families with a delicious dinner at a very low cost, as well as an evening out with other families. The Service-Learning Committee spoke about their hopes for the garden project for the following summer and recruited quite a few volunteers for maintaining the vegetable garden.



Students at Peacham Elementary celebrate their garden efforts with popsicles.

Conclusion

Once we got past defining assessment as grading, we realized we do assessment all the time. As teachers, we are continually observing how our students are doing and giving them support to help them do better.

And we know students do best when we include them throughout the learning process. We continually look for opportunities for each student to be successful and to show us their learning in multiple ways. And we continually seek opportunities to affirm our students' successes, to redirect their missteps, and to help them move ahead in their learning. For us, service-learning is an ideal vehicle to have students address many of our state standards and to gather evidence of their achievement towards these standards. As students engage in service, we (along with our students) have plenty of chances to see what our students know and can do, and to give feedback on their learning. Together with our students, we are able to use assessment to help us all learn and become better at what we do.

APPENDIX 6A: Learning Opportunities (excerpted from the Vermont Framework of Standards and Learning Opportunities)

C. Assessment and Reporting

Multiple Assessment Strategies

- C.1** A balance and variety of assessment strategies, used to gain information and provide feedback about student learning (e.g., performance assessments, self-assessment, paper and pencil tests, checklists, etc.) For example:
- a. appropriate tools and techniques used for assessing different skills and concepts (e.g., anecdotal notes during observation of a discussion; a standards-based rubric used during a culminating project; formal assessments).

Criteria

- C.2** Expectations and performance criteria are clear and public. For example:
- a. Assessments clearly define student products and/or performances, and judge with observable criteria based on standards.
 - b. Public display of student work samples(e.g., on walls, bookmarks, newsletters, discussion at open houses) that illustrate identified criteria.

Using Assessment to Inform Instruction and Guide Student Learning

- C.3** Assessment results that are used to influence instructional decision sand to plan the next learning steps for students For example:
- a. Classroom-based assessments that are embedded into instruction (e.g., assessment of prior knowledge about a topic, entries in learning logs).
 - b. Ongoing adjustment of instruction and of the classroom environment based on assessment (e.g., adding learning-teaching activities, selecting different materials, restructuring learning groups).
 - c. Appropriate use of tools such as performance checklists, scales, tests, and quizzes before, during, and after units of study.
 - d. Collaboration in assessment: gathering information from students, parents, other teachers, and/or community members to help build a more complete picture of student growth and achievement.
 - e. Students participate as appropriate in the development of performance descriptions.

Student Involvement in Assessment

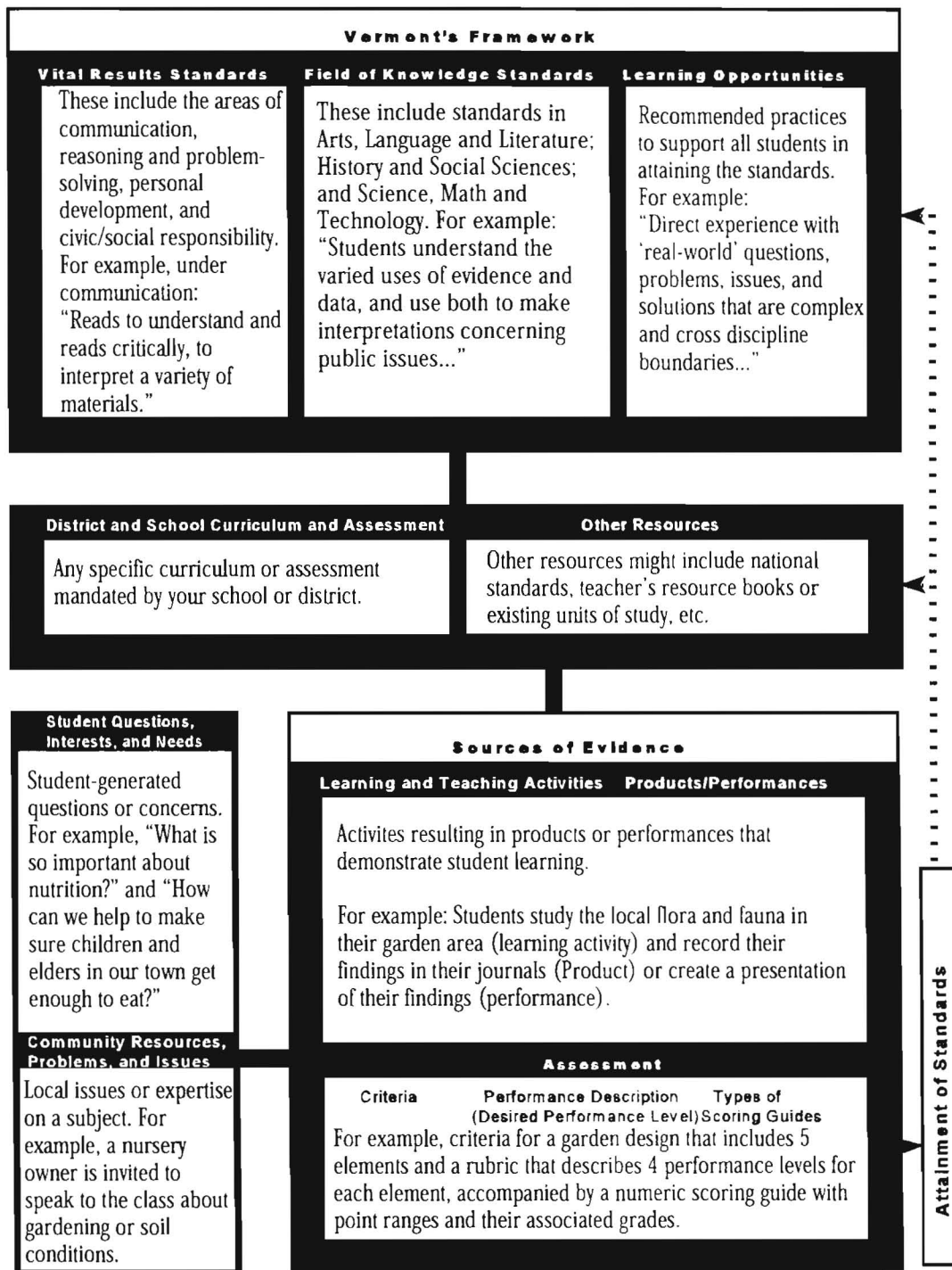
- C.4** Students use clear criteria and examples to evaluate their own work. For example:
- a. Peer conferencing and self-reflection activities that use identified criteria (e.g., students setting criteria for assessment, or using rubrics to assess cooperative group activities).
 - b. Involvement by students in setting and monitoring progress toward learning goals.

Effectively Communicating Assessment Information

- C.5** Students use clear criteria and examples to evaluate their own work. For example:
- a. Assessments that are summarized in relation to standards.
 - b. Clear communication and reporting about results to students, parents, and other professionals.
 - c. Communication of assessment information for clearly defined purposes: comparing student achievement against standards, demonstrating student growth over time, and public accountability.
 - d. Assessments that are fair, valid, and consistent (reliable).
 - e. Report cards that reflect student progress over time toward the standards, as well as student achievement of the standards.
 - f. Student involvement in parent conferences (e.g., reviewing the quality of work and setting goals).
 - g. Regular evaluations of how effectively assessments are being communicated (e.g., interview with students, a survey of parents' responses to new reporting approaches).

APPENDIX 6B: The Core Connections Planning Tool

from the *Vermont Framework of Standards and Learning Opportunities*
(with brief explanations and examples).





WHAT'S FOR LUNCH? HOW DOES FOOD AFFECT YOU AND THE WORLD?

A Service-Learning Inquiry Model

Developed by the Colorado Assessment and Service-Learning Study
Group

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Abstract

The Colorado study group shows how service-learning itself can be an excellent assessment "tool" to demonstrate students' achievement of state standards. Through the various phases of a service-learning project (preparation, research, implementation of projects, and evaluation), students can meet a range of state standards. Within each phase, a variety of assessment strategies can be used to collect information about student learning related to specific standards.

This chapter shows how service-learning can be integrated across disciplinary areas to provide a rich curriculum addressing a wide range of state standards. This sample curricular unit integrates standards-based education with service-learning. Specifically, the unit examines the affects of food on human existence on both a global and local level through a multi-disciplinary, inquiry driven, service-learning model.

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State Context

Like other states, the Colorado legislature has mandated standards-based education as part of its education reform efforts. The state has developed model content standards in eleven areas (language arts, math, science, history, geography, civics, economics, art, music, physical education, and foreign language). Individual school districts must adopt content standards in all of these areas which "meet or exceed" the state standards. The state has also developed a state assessment program to assess student progress toward meeting some of these standards. In addition to the state level tests, districts must adopt or develop assessments and report to their stakeholders.

Most of the work of determining student progress toward meeting standards, however, will fall on the shoulders of the classroom teacher. Many districts are using the concept of collecting a "body of evidence" concerning student achievement. "A body of evidence is a collection of information about student progress in meeting standards that incorporates multiple assessment strategies and episodes" (Asp, 1998). The body of evidence is anchored by data from large-scale assessments (district and state tests) where appropriate, and shared classroom assessments used by all teachers for particular grade levels and subject areas. Thus, while the state and district tests serve as evidence of student learning, most of the evidence about individual student progress will come from teachers collecting information at the classroom level through other student work and projects. The purpose of this chapter is to illustrate how service-learning can be a powerful tool for collecting evidence regarding student achievement.

WHAT'S FOR LUNCH? HOW DOES FOOD AFFECT YOU AND THE WORLD?

Introduction

In Colorado, we recognize service-learning as a method of learning and teaching that has the potential to move our educational system into the 21st century. Its potential lies in its ability to serve as a vehicle for integrating the needs of schools and communities while reflecting current reform agendas and providing meaningful learning experiences for students. In order for service-learning to play a role in transforming our schools, however, educators must become successful at linking service to learning - making connections between service experiences and academic learning explicit.

With the sheer number of educational reform initiatives introduced into our educational system, educators in Colorado and throughout the country are feeling "bombarded" and overwhelmed (Goodlad, 1990; Howey, 1995), with most viewing the various initiatives as "add-ons" to everything they are already doing in their classrooms. Educators are feeling pressured to address district content standards, develop and employ a variety of assessment techniques, and embrace reform initiatives that may only last until new reform movements become vogue. Ultimately, strategies must be designed and implemented for unifying reform initiatives and clarifying not only the content and curriculum, but also the methods for instruction and assessment.

Colorado's Study Group

The Colorado study group comprised district personnel and secondary teachers representing a variety of districts and content area specialties. Members were selected for their knowledge of service-learning, standards, and assessment. The study group first convened in 1996 and began by sharing "best practices" and identifying the needs in Colorado around the issue of connecting service-learning, standards, and assessment. Recognizing the importance of addressing the state standards, the study group decided that Colorado was in need of a comprehensive planning template that would link:

- (a) the typical phases of a service-learning project;
- (b) the content standards related to each phase;
- (c) possible instructional activities related to each content standard;
- (d) student products that could be used as evidence of student achievement; and
- (e) assessment strategies that corresponded to activities and products.

The planning template we created (**Table 7-1**) outlines how these five considerations are linked in the design of successful learning experiences. Later in the chapter we provide examples of how a particular standard could be addressed in the context of a service learning

project and what evidence would be produced indicating student progress toward meeting the standard.

Context for the Unit

The unit presented in this chapter is a composite of several service-learning projects that took place in Colorado during the 1996-97 academic year. This unit was developed around the question, "How does food affect human existence on a global and local level?" The model describes possible activities that relate to the topic of food as a global and local commodity. It explores how this essential question (Wiggins, 1989) could be addressed across the curriculum in the areas for which the state of Colorado has developed content standards.

This unit was developed to exemplify best practices in both service-learning and standards-based education.¹ Standards-based education calls for assessments that

- are authentic and address real-world issues and audiences when appropriate;
- are equitable and unbiased;
- are public and accessible (e.g., scoring criteria for assessments are made available to students and parents so that they are aware of what will be expected and how to improve performance);
- assess skills and knowledge as well as higher order thinking skills and complex cognitive processes such as hypothesizing and synthesizing; and
- call for students to apply and transfer what they learned in one situation to new problems and contexts (Stiggins, 1997).

The principles of sound assessment within standards-based education align with principles of good practice for service-learning — namely, real-world problem solving, authentic learning opportunities and audiences, and active student participation in all phases of the project. Integrating standards-based assessment practices into service-learning projects may thus take the form of having students participate in the development of assessment tasks and scoring rubrics, which increases student buy-in and participation in the educational process.

¹ Standards-Based Education Design Team, 1996; and RMC Research Corporation, 1996

Table 7-1: Planning Template (with explanations for categories and some examples)

PHASE: (e.g., Preparation, Global Research, Local Research, Implementation, or Evaluation & Celebration)				
Content	Content Standards	Instructional Strategies	Student Products	Assessment Strategies/Rubrics
Processes: (e.g., problem-solving, scientific/mathematical inquiry method, group consensus, etc.)	(State Content Standards that apply to processes)	(Teaching and learning activities that allow students to engage in the processes; e.g., science and math lab experiments)	(Work produced by students that shows evidence they have met process standards; e.g., group-generated prioritized list of food-related community problems)	(Strategies for determining whether and how well students currently understand process standards; e.g., journal entries)
Skills: (e.g., map reading; proposal writing; interview/research skills, data collection & analysis skills, etc.)	(State Content Standards that apply to skills)	(Teaching and learning activities that allow students to develop skills; e.g., conducting interviews/research/surveys)	(Work produced by students that shows evidence they have met skills standards; e.g., written project proposal)	(Strategies for determining how well students are attaining skills standards; e.g., rubric for written project proposal to be scored for content, organization, & grammar)
Knowledge: (e.g., Scientific concepts; persuasive and technical writing genres; graphic design principles, etc.)	(State Content Standards that apply to knowledge)	(Teaching and learning activities that require subject knowledge; e.g., science and math labs, debates, simulations)	(Work produced by students that shows evidence they have attained knowledge standards; e.g., a brochure that demonstrates graphic design principles & understanding of scientific concepts)	(Strategies for determining how well students have attained knowledge standards; e.g., student-created rubric to assess persuasive quality of presentation based on persuasive writing standards)

The Planning Template

The Planning Template provides an overview of the service-learning unit. **Table 7-1** shows a template for a single phase. There are five phases in our service-learning unit, each of which uses its own template. The phases include:

- (1) Preparation (Laying the Foundation)
- (2) Global Research (Building Knowledge, Skills, and Procedures)
- (3) Local Research (Integrating Experience and Academic Knowledge)
- (4) Implementation (Taking Action with New Knowledge)
- (5) Celebration and Evaluation (What Was Learned and Accomplished?)

These phases are a hybrid of service-learning best practices² and

Tasty Tidbits for Teachers

Standards-based reformers recommend that assessments be designed prior to instruction.

²As described by Toole, J. & Toole, P. (1993) in *Service Learning Cycle*; St. Paul, MN: National Youth Leadership Council and Compass Institute. Toole and Toole (1993) have developed a Service-Learning Cycle that summarizes the processes involved in service-learning in terms of What?, So What?, and Now What? These processes are described in more detail in the next section.

research/inquiry protocols such as the GIGI World Hunger Unit³. Within each phase, the content standards are delineated in Colorado's format of processes, skills, and knowledge. The planning template for each phase and its accompanying explanation offer examples of how a particular content standard could be addressed in the context of a service learning project and what evidence of student learning would be produced and assessed.

Although assessment is described in the last column of the template, we would like to point out that the assessment strategies would be designed at the outset, after the content and standards have been identified. The Standards-Based Education Design Team (1996) recommends that assessments be designed prior to instruction so that they can guide what content is presented to students and what instructional strategies are employed. It is important to note, as well, that while standards from many content areas might relate to a service project, teachers would want to specify which standards would be assessed through the project and what the specific evidence of achievement would look like for those standards.

PHASE I: PREPARATION

Laying the Foundation

The primary purpose of Phase I of this service-learning model is to establish both the learning and the service context within which students will be working. One function of this preparatory phase is to identify and develop the processes, skills, and knowledge that students will need in order to address the question "How does food affect you and the world?" This can be achieved through classroom activities that help the students understand the purpose of the unit and the larger question being explored. Since this unit is comprehensive, it is helpful to start by providing the students with a "road map" or overview of

- (a) the learning to be accomplished (content and standards),
- (b) the role that the service-learning will play in the unit (overview of service-learning), and
- (c) how the learning will be assessed.

Table 7-2 shows the planning template filled in for Phase I.

Processes To make service-learning meaningful for your students, it can help initially to have your students explore issues of justice, equity, and group problem-solving to help them understand the benefits of working together and to help them see the classroom as a microcosm of our democratic society. Here is a good place to explain how journals and portfolios will be used and to introduce the "service-learning cycle" to help students understand the purpose and process of their service work. The cycle identifies questions that may be used for general reflection: *What?*, *So What?*, and *Now What?*. These questions guide consideration of the connections of service experiences and academic content.

³ A. David Hill, James M. Dunn, & Phil Klein (program developers) (1995). *Britannica Global Geographic System: Geographic Inquiry Into Global Issues (Hunger Module)*. University of Colorado—Boulder and Encyclopedia Britannica Educational Corporation, Chicago, Illinois.

Table 7-2: Planning Template for Phase I

PHASE 1: PREPARATION				
Content	Content Standards	Instructional Strategies	Student Products	Assessment Strategies/Rubrics
Processes: 1. Creating a "learning community" (classrooms as a microcosm of democracy) 2. Group problem solving.*	<ul style="list-style-type: none"> Civics: 2, 4 R&W: 3 	<ul style="list-style-type: none"> Introduce Service-Learning Reflection Cycle (<i>What, So What, Now What</i>) Introduce Journal & Portfolio to be maintained throughout the process Develop a rubric for assessing Journal & Portfolio 	<ul style="list-style-type: none"> Large scale Reflection Cycle Diagram for wall List of "Learning Community" rules Journal 	<ul style="list-style-type: none"> Journal Assignment: Have students generate and write up an example of <i>What, So What, Now What</i> learning cycle (grammar, spelling punctuation, as well as concept can be graded if this is made explicit from outset)
Skills: 3. Map reading for resources and distribution patterns. 4. Interview research skills. 5. Survey research skills.	<ul style="list-style-type: none"> Science: 1 Geography: 1 R&W: 1, 5 Math: 3 	<ul style="list-style-type: none"> Introduce research skills. Discuss methods for developing a survey Discuss techniques for writing interview questions. Create maps, charts, and graphs illustrating food issues. Compare community map with "professional" maps. Practice communication skills including interviewing and telephoning. 	<ul style="list-style-type: none"> Interviews Surveys Portfolio Journal log of research process and findings Maps, charts, graphs 	<ul style="list-style-type: none"> Rubric for assessing graphs, charts Rubric for assessing surveys Journal assignment about importance of survey, graphing and communication skills Criteria for portfolio and selection of which products to include
Knowledge: 6. Ascertain students' existing knowledge of food-related concepts in science (calories, digestive system, or plant science), and other content areas.	<ul style="list-style-type: none"> Science: 2, 3 R&W: 4 	<ul style="list-style-type: none"> class discussions of various meanings of concepts Class debates to strengthen their ability to provide coherent arguments to support their claims (topics include: What happens to your body when you skip lunch? Who is the FDA and are the FDA daily requirements appropriate for everyone?) Demonstrations or experiments that support or refute students' initial concepts 	<ul style="list-style-type: none"> Glossary of terms with various meanings List of different claims about the importance of eating lunch, etc. 	<ul style="list-style-type: none"> Pre-Assessment: Have students write their definitions of <i>nutrition, vitamins, minerals, calories, FDA requirements</i>, etc. Pre-Assessment Revision: Have the students retake the pre-assessment after debate or demonstrations and explain how their conceptions have changed.

*See Active Citizenship Today (199?) For ideas about how to create a learning community and problem-solving protocol in your classroom.

For example, during service-learning units, reflection and assessment can be guided by three questions:

1) *What?* (descriptive phase): What are we doing? What are our responsibilities? What is the service? What is being learned? What skills are being applied?

2) *So what?* (synthesis phase): What is the importance of what we have learned? What is the larger context and meaning of the issues we have examined? What is the relationship between service and learning, between academic learning and personal experience?

3) *Now what?* (application and transfer phase): Now what can be done with the knowledge we have gained? How can we apply our new understanding to complex community issues?

The service-learning cycle is a helpful model for conceptualizing a service-learning project and the standards to be met by participation in the project. It reminds us continually to consider the connections between the service and the learning goals of the project and to help our students benefit by making reflection questions explicit. In this preparation phase, process-related activities could include having the student create a large-scale drawing of the “service-learning cycle” for the wall of the classroom, a declaration of “interdependence” for the classroom, and guidelines for how journals and portfolios should look and criteria for how they will be assessed.

Skills There are a few basic skills that may help the students during the unit. These include interview and research skills, map reading, and communication skills. These could be learned through methods such as debates, role-playing, and designing surveys. Students would use the research skills to acquire basic background information that will help them see the dimensions of the issues they are examining. Some time could also be spent in this phase helping students look at the scope of the problem. If, as in the case of this unit, the problem exists at a global scale, it is important to help students realize that they are concurrently members of several communities. While they will be looking at a global problem, the problem also manifests itself at a local level. By formally assessing students interviewing and information gathering skills, teachers can document whether students have met content standards identified at the start of the project (e.g. Reading and Writing Standard 5: “Students read to locate, select, and make use of relevant information from a variety of media, reference, and technological source”).

Knowledge It can be helpful to determine what knowledge your students have about the concepts or issues central to the unit (e.g., famine, digestive system, plant science). This could be done through structured brainstorming, journals, class discussion, or in-class written responses. If your students do not have some of the foundational knowledge they will need for the unit they could gain it through activities such as reading, lectures, debates, or experiments. A *content knowledge* assessment for Phase I could focus on measuring students “baseline knowledge” on issues related to the topic.

PHASE II: GLOBAL RESEARCH

Building Knowledge, Skills, and Procedures

Phase II explores the issue of “the impact of food on the world”, examining food-related issues at the global level (**Table 7-3**). In Phase II, emphasis is placed on mathematics, science, history, economics, and geography content standards. The primary activities and teaching strategies include students working in cooperative groups to gather evidence on

- (a) the availability of food sources nationally and globally, and
- (b) how this availability affects the people of various countries.

Using an inquiry approach, students are actively involved in observation, interpretation, experimentation, and research methodology. Students begin to plan their service learning activity by looking at public policy issues surrounding local, national, and global hunger through research in their library and by contacting government and private agencies dealing with this issue.

Ideas For Stimulating Interest in Service Learning Projects

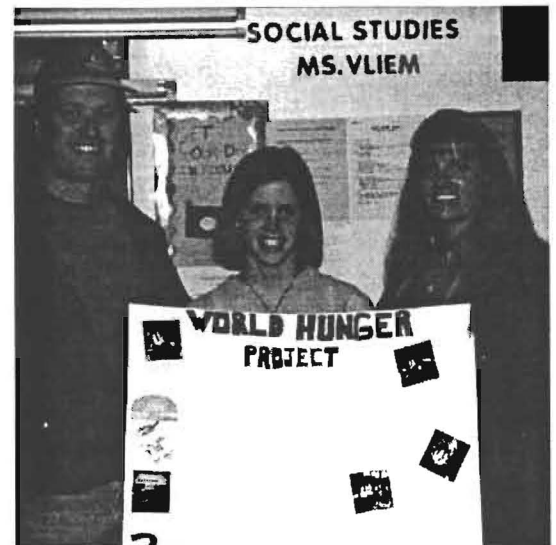
- Using News Bank, Text on Microfiche, and the Internet in their library, students can locate current articles on the problem of hunger and begin to formulate their position on this issue.
- Literature and readings can be used to enhance the student’s knowledge and understanding of the growing problem that hunger has created. “Hunger in America” (Lieberman), *Sing Away the Hunger* (Barns), and *Hunger Moon* (Wilkinson) are just a few of the choices available.
- A simulation of a United Nations special meeting with students taking the roles of different countries and giving speeches on world hunger would help them to analyze their positions.
- The students could write letters to their state and federal legislators advocating changes they feel are necessary to combat this growing human problem.

Processes *Students demonstrate the scientific inquiry method.*

One strand of the global research phase could focus on science process skills. Students could apply scientific methods to maintain a daily log of nutrient intake, calculate nutritional content of foods, and assess their own energy needs and consumption.

Skills *Students practice skills collecting, investigating, and analyzing.*

The global research phase could involve information gathering from a variety of resources including Internet, newspapers and journals on the problem of global and local hunger. The students might derive definitions of *malnutrition*, *undernourishment*, and *balanced diet*. Students could research a variety of food-related topics and create presentations, which — along with lab reports from Strand I — can serve as evidence of



A student shows what she did during the Hunger Project, including making phone calls, creating a brochure, and talking to Safeway.

learning. The two strands may be supported by related concepts in other classes and serve as a launchpad for service-learning activities such as a food drive, a community garden, working with the homeless, or other ideas students might suggest.

Table 7-3: Planning Template for Phase II

PHASE II: GLOBAL RESEARCH				
Content	Content Standards	Instructional Strategies	Student Products	Assessment Strategies/Rubrics
<i>Processes:</i> 1. Scientific and mathematical inquiry method (hypothesis generating and testing)	<ul style="list-style-type: none"> Science: 1 Math: 1, 3 	<ul style="list-style-type: none"> Science and math labs and experiments Lecture and class discussion 	<ul style="list-style-type: none"> Group-generated reasons for the importance of scientific inquiry methods 	<ul style="list-style-type: none"> Student demonstrations assessed by group-generated checklist describing understanding of the components of scientific inquiry
<i>Skills:</i> 2. Locating and using resources to conduct research on the impact of food on a global level 3. Public policy investigation procedures relating to food/nutrition on a global level 4. Data collection and analysis skills relating to impacts of food on a global level	<ul style="list-style-type: none"> Science: 1, 5 Math: 1, 2, 3, 5, 6 R&W: 1, 2, 3, 4, 5 Civics: 2, 3 Economics: 1, 2, 3 Geography: 1, 2, 4, 5 History: 2, 3, 4, 6 	<ul style="list-style-type: none"> Activities that allow students to practice data collection skills from sources such as Internet, government documents, textbooks, etc. Students develop a rubric for evaluating sources of information for their validity. Review format and process used in developing a bibliography Students begin a directory of "contacts" that includes names of people, places, phone numbers, on-line addresses where resources can be located Students conduct phone interviews with contacts 	<ul style="list-style-type: none"> Journal log of research findings and process Bibliography Human resource directory 	<ul style="list-style-type: none"> Journal Public policy review
<i>Knowledge:</i> 5. Scientific concepts and methods needed to test hypotheses about the impact of food on some aspect of the world (pesticide usage, rainforest destruction, hunger) 6. Mathematical concepts and procedures related to calories and human energy 7. Impacts of politics/economics on food distribution and impact of food on human health 8. What constitutes good health and why it is important	<ul style="list-style-type: none"> Science: 1, 2, 3, 5, 6 Math: 1, 5, 6 R&W: 2, 3, 4 Civics: 3, 4 Economics: 1, 2, 3 Geography: 2, 4, 5, 6 History: 2, 4, 6 Music: 1, 2, 4, 5 P.E.: 2, 3 	<ul style="list-style-type: none"> Biology and math labs Cooperative learning groups Debates Mock World Court (see GIGI Hunger Unit: Global Issues in Geographical Inquiry) Lecture and class discussion about impacts on human health Study music and dance from various cultures that relate to food/harvest rituals Students choreograph and put on a dance/music performance for their school and community Involve P.E. teacher in designing experiments for students to investigate physical attributes of good health and physical fitness (skill tests, pulse rate, and its effect on performance, etc.) 	<ul style="list-style-type: none"> Biology lab write-ups Formal proposal for how to solve one food-related global issue (based on research) Letters to legislators about food-related issues and proposed solutions Journal Notes, speeches, etc. used in preparation for debates for Portfolios Dance/music performance 	<ul style="list-style-type: none"> Biology Lab Math exam Research/Position Paper & Proposal: Have students present information in What? So What? Now What? format with authentic purpose of using data to propose a solution to global food-related issues. Persuasive Letter rubric

Knowledge Students present information in What, So What, and Now What format. Once baseline information is collected, students can

work in groups to research nutrition topics. Their findings will be presented back to the class as posters, multi-media presentations, brochures etc. Topics might include: stages of starvation, nutrition related diseases, relationship of diet to heart disease and other conditions, child mortality and nutrition, vitamin deficiency conditions, agricultural issues, food supply and demand, food and population, vegetarian and meat diets, starvation relief efforts and other appropriate hunger related issues. The audience for these presentations might be other school classes or possibly parents and community.

Some suggestions for standards, instruction, student products and assessment strategies are shown in **Table 7-4**. The time frame for these activities might be two or three weeks depending on the needs of the teacher. The activities are intended to take place during science class but if interdisciplinary teams were in place, blocks of time for research and lab activities would be advisable. It is hoped that these activities would be supported by related concepts in math, language arts, and social studies. Once the students have gained experience and knowledge in food issues they should be ready to take their knowledge to the community in projects that will demonstrate their concern in the true spirit of service-learning. Through debates, a mock world court, studying cultural music and dance relating to food/harvest festivals, and looking at good health/physical fitness skills, students can begin to propose solutions to global food-related issues. Students could write letters to their legislators about these issues and propose solutions while developing speeches to promote public policy changes. Using the data they have collected through their process, skills, and knowledge levels, they are ready to move on to phase III, integrating their experience into the academic content area.

Table 7-4: Science Related Activities to Study Nutritional Value of Foods

Service-learning Framework	Standards	Instructional Strategies	Student Products	Assessment Strategies
PLAN: <ul style="list-style-type: none"> • Begin weekly class average food intake index 	1.1, 2.1D	Students fill in a chart of their diet for a week	The chart	Establish a rubric for food energy index
<ul style="list-style-type: none"> • Weigh and analyze school lunch to introduce guidelines for portion and weight estimates 	3.1A	Students learn to estimate portions and read dietary information	Completion of a designed worksheet to transfer to their intake index.	Practical task
ACT: <ul style="list-style-type: none"> • What is a calorie? Calorimetry Lab 	3.1A	Students conduct tests on a variety of foods	Students collect data on a variety of foods	Lab report
<ul style="list-style-type: none"> • Energy In/Energy Out Lab to establish basic energy needs 	3.2D	Students analyze their basic energy needs compared to their food intake	Students analyze energy derived from foods and basic requirements	Test ability to determine energy value of a variety of foods
<ul style="list-style-type: none"> • Define malnutrition, under-nourishment, and establish minimums independently to compare with accepted values 	5.2C, 5.1D	Students establish criteria for adequate diets and compare to accepted values	Students establish criteria for undernourishment	Compare students' values with accepted values

Persuasive Letter Writing: Service-Learning as Authentic Assessment

As indicated in the Planning Template for Phase II, having students write letters to legislators about food-related issues serves as an authentic assessment of students' knowledge as well as a service-learning activity that allows students to apply their knowledge to real-world issues. Below is an example of a student letter (**Figure 7-1**) and a rubric used to assess persuasive writing (**Table 7-5**).

Amy Gallas
1400 North 5th Street
Grand Junction, CO 81501
May 24, 1999

Senator Ben Nighthorse Campbell
380 Russell Senate Office Bldg.
Washington, DC 20510-0605

Dear Mr. Senator:

I'm writing to fulfill my obligation as a citizen to the United States. Although I'm only 17 years old and unable to vote yet, it is my responsibility to stay involved in my government's decisions and policies whether I agree with them or disagree with them. At this moment, I would like to use the power I have to address the current issues in Kosovo, specifically humanitarian aid.

After reading articles posted on the CNN Internet site, I realize that the government currently searches for ways to help those refugees in Kosovo — to provide them with food, housing, and health care. However, I feel we have neglected to act on providing aid to those people who are still trapped within the war torn country. Recent issues addressed in the papers as of May 14 suggested air drops by the U.S. and NATO forces. However, as these articles stated, these air drops placed Americans in danger when the plane are required to fly too low to drop supplies. I'm glad that the government currently looks for new ways to help but these decisions are taking too long. The people within Kosovo are starving and dying in worse conditions than those who have become refugees.

With this letter, I would simply like to suggest that the government begin acting quickly on this problem. The people we attempt to save from war die from starvation. I realize that there are relief agencies already involved but the relief agencies can only supply so much help. Since the government has decided to become involved, it is our duty to help these people whose country has become a death site.

Sincerely,

Amy Gallas

Figure 7- 1: *Persuasive Letter*

Table 7-5: Persuasive Letter Rubric

PERSUASIVE LETTER RUBRIC			
Structure & Mechanics Grammar/ Components	10 - 7 Advanced Writer makes a clear and obvious point in the opening statement and carries it throughout the letter. Letter has fewer than 3 errors, uses correct spelling, is well-organized, and flows.	6 - 4 Average Writer makes a point, but does not incorporate it throughout the letter. Letter has fewer than 6 grammatical or spelling errors, is organized, and flows.	3 - 0 Poor Writer does not make a point or have a main idea. The letter is disorganized, confusing rather than coherent. There are more than 6 mechanical or spelling errors.
Supporting Evidence Degree of research support	10 - 7 Advanced The writer has a thorough understanding of existing policy and cites many sources. The references flow throughout the letter and bring out new ideas.	6 - 4 Average The writer has an idea of the current policy and cites sources. The references are not all relevant or supportive.	3 - 0 Poor The writer knows little or nothing about the current policy, does not cite sources, is not organized, and appears to have little knowledge of the subject.
Persuasion Degree of persuasive-ness	10 - 7 Advanced The letter produces an emotional response from the writing and displays an obvious feeling of compassion and commitment. Impressive even when the reader does not agree.	6 - 4 Average Letter demonstrates proficient knowledge of the subject but does not express it to the fullest potential.	3 - 0 Poor Letter demonstrates little or no passion in the letter. Does not convince the reader of anything.

PHASE III: LOCAL RESEARCH

Integrating Experience and Academic Knowledge

In Phase III of this service-learning model, students investigate the issue of hunger on a local level (**Table 7-6**). In this phase, we focus on the use of a journal as an authentic assessment tool and as a record of the research methods used to develop the local service-learning project(s). Although presented in Phase III, the service-learning journal is a valuable tool to incorporate throughout all five Phases of the service-learning model.

Content Standards Phase III begins by identifying the content and standards to be covered. The instructor can do this or can ask students to identify the standards as part of their journal assignment. Once the standards to be met are identified, the student writing can focus on *how* the standards are being met through the various activities outlined for the unit.

Table 7-6: Planning Template for Phase III

PHASE III: LOCAL RESEARCH				
Content	Content Standards	Instructional Strategies	Student Products	Assessment Strategies/Rubrics
Processes: 1. Community needs assessment 2. Group problem solving process to generate and prioritize list of most urgent food-related issues in the community (<i>So what?</i>) 3. Group consensus processes for selecting possible project(s) to be undertaken by group.	<ul style="list-style-type: none"> • Civics: 2, 3 • History: 2, 5 • Geography: 1, 2 • R&W: 2, 3, 4, 5 • Math: 1, 3, 5, 6 • Science: 1, 3, 5 	<ul style="list-style-type: none"> • Develop surveys to explore food-related issues in local community (survey skills taught in Phase I). • Use research skills to collect information from diverse sources on local food-related issues. • Generate list of food-related issues in local community. • Use preliminary selection process to determine which issues the group could feasibly address 	<ul style="list-style-type: none"> • Group-generated and prioritized list of food-related problems in the community. 	<ul style="list-style-type: none"> • Journal
Skills: 4. Proposal writing (identify need; propose solution; outline steps for implementation, etc.) 5. Business and accounting skills (develop budgets, cost analyses; identify community resources)	<ul style="list-style-type: none"> • Science: 1, 3, 5, 6 • Geography: 1, 4, 5, 6 • R&W: 1, 2, 3, 4, 5 • Math: 1, 5, 6 • Economics: 1, 2 • Civics: 3, 5 	<ul style="list-style-type: none"> • Group* discusses components of a proposal and develops rubric for assessing it (written & oral presentations). • Students present proposals to classmates, teacher and community representative(s). • Group assesses each other's proposals using rubric. • Students revise proposals based on feedback from peers, teacher, and community reps. • Group agrees on solutions/ project(s). 	<ul style="list-style-type: none"> • Student-generated rubric • Project proposal • Evaluation sheet for proposals 	<ul style="list-style-type: none"> • <u>Project Proposal</u>: Graded for content, organization as well as grammar, spelling, punctuation, etc. • <u>Journal</u>: Have students record their proposal-writing process and effects of the critique process. • <u>Portfolio</u>: Have students include their proposals, evaluation forms, etc. in their portfolios.
Knowledge: 6. Function and policies of local government and how they affect food-related issues 7. How local economic and social systems affect food-related issues 8. How citizens (including youth) can impact local policies and affect change in communities	<ul style="list-style-type: none"> • Civics: 1, 2, 3, 4 • Economics: 1, 2, 3 • Geography: 1, 4, 5, 6 • R&W: 6 	<ul style="list-style-type: none"> • Students attend city council, school board, & chamber of commerce meetings. • Students present their group proposal to the community and enlist support. • Guest speakers from local government, homeless shelter, food bank • Service-learning projects in local agencies for better understanding of how people are directly impacted by state and local policies. • Read literature related to community activism, ethic of service, food/hunger, etc. 	<ul style="list-style-type: none"> • Notes from meetings • Notes from service-learning • Formal presentation to educate community about food-related issue(s) and the group's proposed solution (e.g., community awareness brochure) 	<ul style="list-style-type: none"> • <u>Social Studies Exam</u>: Generate case studies based on class experience at local meetings and agencies and have them identify the political, economic, social, and biological factors that contribute to the problem and possible solutions. • <u>Literary Critique</u>: Students compare literature with own experiences.

*Ideally the "group" would include students, teacher(s), community members, and the principal or other administrators.

Instructional Strategies An important next step is for the teacher to identify the different instructional strategies that best ensure that content and standards are not only covered but learned. For example, it is helpful to train students in problem-solving processes so they can work together as a “learning community” to identify solutions to the issue being studied. While this training could take place in Phase I of the unit, it could be applied at this stage.

Other instructional strategies that would support students as they carry out local research could include developing surveys, needs assessment exercises, consensus building techniques, and expert panel forums. Any of these would help students develop service project proposals that address the problem of hunger at the local level.

Student Products The third category, student products, highlights the proposals that students write to address the local food-related issues they identify through their local research. The service-learning journal is also an important product because it documents the processes, skills, and knowledge that led to the formation of the proposal. The journal could also include student-generated rubrics used to help select the proposed solution, feedback sheets to evaluate proposals, expert interview reports, student presentations of various solutions, and timeline estimations for completion of project. All of these provide students and teacher with rich evidence of learning from which students can draw as they assemble their final portfolios in Phase V. The use of a journal in connection with a service-learning project also helps the teachers maintain the integrity of the project. Too often completing the project itself becomes the focus of student efforts, and the reason for carrying out the project is lost. The service-learning journal can help eliminate this problem.

Assessment Strategies: The Student Journal The assessment strategy we illustrate in this phase is the student journal. We have found it to be useful for pulling together the various activities into a coherent whole that addresses the original inquiry questions. While some of the students’ entries may be subjective reflections that would not be graded, many of the elements listed above (rubrics, feedback sheets, interview reports, timeline estimations, etc.) can be scored. Reflection is an essential component of the service-learning model, and the journal is one systematic way to structure student reflection so that it relates to the issues and content being explored. The journal can be used during each phase of the service-learning unit and eventually form part of a student portfolio — the assessment technique featured in Phase V. We explain it here because it provides a meaningful collecting point for student research and the effect of that research on student thinking and problem solving.

What does the journal look like? We have found that a three-ring notebook works best because it allows students to add any additional handouts, forms, and assessment tools into the journal. Over the years, we and our students have developed a format for the journal that includes five major sections: cultivating the attitude, problem-solving processes, daily log, curricular connections (and standards addressed), and reflection. The students work on each of these sections on an on-going basis throughout

Tasty Tidbits for Teachers

This assessment was designed by Guy Brickell (Glenwood Springs High School) and Judy Jepson (Grand Junction High School). For more information, email Judy at: JJepson@gjhs.mesa.k-12.co.us

the unit. Journal writing is not a linear process, but one that helps students weave together the various projects into a coherent unit. To ensure continuity, we try to structure each journal entry around the *What?*, *So What?*, *Now What?* of the service-learning reflection cycle. Thus, within each section, students are describing their experiences (*What?*), exploring the connections between their academic curricula and the learning taking place through service (*So What?*), and applying their new knowledge and insight to new problems and issues (*Now What?*).

Section I: Cultivating the Attitude A helpful first step in service-learning is to have students explore their beliefs and knowledge about service, community, civic responsibility, and social issues related to the unit (e.g., soup kitchens and their clientele). This can be done by providing students with provocative readings (fiction, poetry, reports), presenters (e.g., the director of Community Food Share), and videos that promote thought and discussion. Students are unlikely to question the purpose of service-learning if this part of the journal is strong. Cultivating the attitude is an on-going process and can be revisited throughout the unit. For example, to have students reflect at the end of the unit on how their conceptions of service, civic responsibility and hunger have changed can be a powerful experience.

Section II: Process The second purpose of a service journal is to document the problem-solving process that is used by the students to identify the specific issue or projects to be addressed. This is where the student records their research activities and could include surveys developed, interviews, and testimonials from experts that address the class on various issues. Finally, this part of the journal should describe the processes by which community problems/issues were identified and solutions were generated. If building group consensus was part of the problem-solving process, it should also be discussed.

Section III: Daily Log The third purpose of the journal is the traditional daily log kept by the student regarding work completed for the service-learning project. This will help the teacher to hold the student accountable for finishing the project. Some teachers use a special form that must be filled out by the students (and by community supervisors, if applicable) after each day's work on the service-learning project. This also helps the teacher keep track of what each student is responsible for during the project (and whether they are meeting the service agency's expectations).

Section IV: Connecting to the Curricula and Content Standards

Connecting the service to academic learning is an important part of the service-learning process. This means, for example, helping students see the connection between learning human and plant biology and issues of local and global hunger. By providing provocative journal questions, teachers can facilitate students' understanding of how their academic subjects relate to real world issues. This is a good place to weave in the content standards, perhaps by having students determine which ones are being addressed and how. One of the real strengths of using service-learning as a teaching methodology is the variety of academic standards that can be addressed in one project. This section helps with the

assessment phase of the project because now the students and teacher have a clear understanding of what is to be assessed.

Section V: From Reflection to Action The final purpose of the service-learning journal is “reflection to action.” This is perhaps the most critical section of the journal because it asks the student to apply their knowledge to some form of solution. This section requires students to analyze what they have learned over the course of the unit and to determine the impact they have had or could have on the community. Moving students from reflection to action is the heart and soul of service-learning. Service-learning hopefully becomes a way of seeing the world, one in which students envision themselves as contributing members of their community and are motivated to take action beyond the unit — or your time with them. They can also reflect on how the processes, skills, and knowledge they have acquired might be applied a different social problem or concern.

Because journals document so much of the service-learning experiences, they can be a large undertaking for teachers, especially if the teacher provides ongoing feedback to students throughout the unit. It can be effective to have the students do periodic “peer reviews” of each other's journals to cut down on the teacher's workload and to allow students to engage in peer dialogues around the issues being explored. For the journal to serve as a valuable authentic assessment tool, teacher and students should take the time beforehand to develop explicit expectations for how the journals will be reviewed and assessed. This helps ensure that the assessment process is as clear and objective as possible.



Students show off their World Hunger Poster.

PHASE IV: IMPLEMENTATION

Taking Action with New Knowledge

In Phase IV, students synthesize the processes, skills, and knowledge gained in Phases I through III to create a product that addresses the identified global food issues — but at a local level (Table 7-7). For example, as a culminating activity, students could create brochures that represent what they have learned and bring that information to their community. This can be even more effective if students each write and deliver a persuasive speech to go along with their brochure. The brochures and speeches can then be presented to local agencies, businesses, or student groups. In this way, students learn how to promote their ideas in more than one format, and persuade others in their community to take action on problems the students have identified.

Processes The brochure and persuasive speech can be best thought of as the product of five processes involved in quality service-learning: preparation, action, reflection, assessment, and celebration. Involved in each phase of this process, students learn the importance of each step, as well as how they fit together in a meaningful whole. The products in this phase represent and celebrate this learning.

Skills In order to be successful in this phase, students need to be taught the skills associated with the design, production, and distribution of a brochure that will educate the community about the food-related issue they select. In addition to the technical skills to produce the brochure, students must also have the skills to critically analyze and synthesize a large body of information and present it persuasively to a real audience. In this way, the brochure and speech are authentic assessments and quality service-learning activities.

Knowledge In addition to the content area knowledge needed to complete this phase, students need to know about the genres of technical and persuasive writing as well as graphic design principles. An example of a mock-up for the brochure is shown in Figure 7-2, and the rubric for assessing it in Table 7-8.

<i>(Front side of brochure)</i>		
What community needs are not being met?	Student names, grade and team	Title of Project
How would meeting these needs improve our community?	Name of school school address school phone	What can be done? (Summary)
		Who will benefit?
<i>(Back side of brochure)</i>		
WHAT is the issue?	SO WHAT solutions have been tried	NOW WHAT can I do?
How is this issue a problem in our community?	Which organizations or agencies are working to solve the problem?	(Outline of student plan)

Figure 7-2: Mock-up of Brochure

Table 7-7: Planning Template for Phase IV

PHASE IV: IMPLEMENTATION				
Content	Content Standards	Instructional Strategies	Student Products	Assessment Strategies/Rubrics
<i>Processes:</i> 1. Review <i>Now What?</i> phase of service-learning cycle. 2. Procedures for implementing service-learning projects (preparation, action, reflection, assessment, celebration).	<ul style="list-style-type: none"> • R&W: 3, 4 	<ul style="list-style-type: none"> • Discuss preparation necessary to implement project (skills, knowledge, assistance that will be needed to design and distribute a community awareness brochure). • Discuss specific roles and responsibilities for students, teacher(s), parents, community member, and administrators. • Brainstorm learning and service goals for the project. 	<ul style="list-style-type: none"> • Formal statement of project's learning and service goals (and how they will be monitored and evaluated) 	<ul style="list-style-type: none"> • <u>Journal</u>: Have each student determine his/her own service and learning goals for the project.
<i>Skills:</i> 3. Skills needed to design, produce, and distribute a brochure that will educate the community about unforeseen hazards that are affecting their food, water and health.	<ul style="list-style-type: none"> • R&W: 1,3, 4, 5 • Visual Arts: 3 • Math: 1 	<ul style="list-style-type: none"> • Group designs brochure by synthesizing information generated in Phases II and III. • Group pilots brochure and incorporates feedback. • Instruction on grammar, punctuation, etc. • Computer lab lessons on desktop design. • Math exercises in cost effectiveness for brochure production 	<ul style="list-style-type: none"> • Journal log recording steps for implementation and results of each step taken • First drafts of brochure 	<ul style="list-style-type: none"> • Journal • Portfolio • Grammar test
<i>Knowledge:</i> 4. Understanding of various writing genres including persuasive and technical writing 5. How to use scientific and mathematical concepts and language to support an argument 6. Knowledge of graphic design principles	<ul style="list-style-type: none"> • R&W: 2, 3, 4, 5 • Science: 3 • Visual Arts: 3 	<ul style="list-style-type: none"> • Class discussion about what makes information "persuasive" • Guest lecture and activities by professional in the community who writes brochures for a living • Instruction on components of "good" technical writing • Activities that allow students to experiment with creating persuasive text based on technical and nontechnical data • Students print and distribute brochures to their community 	<ul style="list-style-type: none"> • Final brochure • Persuasive speech 	<ul style="list-style-type: none"> • <u>Brochure</u>: Individual contributions to the brochure can be assessed by (a) having each student be responsible for a section of the brochure, or by having multiple brochures designed by only 1 or 2 students. • <u>Speech Rubric</u>: Have students help create a rubric to assess the persuasive speeches that will support their brochures.

Table 7-8: Service-learning Brochure Scoring Rubric

Aspect	1 - In Progress	2 - Proficient	3 - Exemplary
WHAT? ✓ Issue identified ✓ Research shown	1) States the issue student is investigating 2) Identifies a source contacted 3) Shows the importance of the issue in our community using a researched fact	1) States the issue student is investigating 2) Identifies two sources contacted 3) Shows the importance of the issue in our community using two researched facts	1) States the issue student is investigating 2) Identifies three sources contacted, one of which is governmental 3) Shows how the issue is a problem in our community using three researched facts
SO WHAT? ✓ Solution offered	1) Identifies one organization or agency working to solve the problem 2) Describes their solution 3) Offers a way they could be assisted	1) Identifies one organization or agency working to solve the problem 2) Describes their solution 3) Offers two new solutions or ways to assist the organization	1) Identifies two organizations or agencies working to solve the problem 2) Describes their solutions 3) Offers three new solutions or ways to assist the organizations
NOW WHAT? ✓ Project described	1) Tells how the student can work to assist the above organization/ agency 2) Lists the steps needed to accomplish this work: a) action to be taken b) specific jobs and deadlines c) roles of students involved d) assistance needed and who will provide it 3) Lists improvements people in the community will see as a result of this project	1) Selects one of the above options for the student project and tells why it was selected. 2) States the objective of the project 3) Lists the steps needed to accomplish the project: a) action to be taken b) specific jobs and deadlines c) roles of students involved d) assistance needed and who will provide it 3) Lists improvements people in the community will see as a result of this project	1) Names one of the above options for the student project and tells why it was selected. 2) States the objective of the project including who will be helped by this project 3) Creates a chart of the steps needed to accomplish the project including: a) action to be taken b) specific jobs and deadlines c) roles of students involved d) assistance needed and who will provide it 3) Lists improvements people in the community will see as a result of this project
MECHANICS	1) Needs sentence structure 2) Spelling or punctuation errors 3) Needs to be typed or written neatly 4) Has distracting or irrelevant content	1) Written in complete sentences where appropriate 2) Perfect spelling and punctuation 3) Typed or written neatly in ink 4) Has no distracting or irrelevant content	1) Written in complete sentences where appropriate 2) Perfect spelling and punctuation 3) Neatly typed 4) Content clear and illustrated with graphics

Figure 7-3 shows a student's persuasive speech along with its associated rubric.

**ACT/World Hunger
Social Studies and Language Arts
Oral Presentation**

Rubric/Checklist

Evaluator's Name _____
 Evaluator's Position and/or Relation to Speaker _____
 Speaker's Name _____
 Topic of Speech _____
 Date _____

Speech Standards	Needs Improvement	Meets Standard	Sophisticated
1. Speech begins with a catchy introduction and tells why the speaker is taking action on this problem.			
2. After the introduction, the speech first tells what outcome the speaker wants.			
3. Using a clear, concise description of the problem, its causes and effects, the speech explains why the speaker wants the outcome.			
4. Next, the speech explains how the speaker plans to get the desired outcome.			
5. The speech ends with a powerful conclusion that restates the main points of the speech.			
6. The overall effectiveness of the speech keeps the listener's attention.			
Presentation Standards			
1. The speaker's appearance and dress are appropriate for the setting.			
2. The speaker speaks clearly using a comfortable pace.			
3. The speaker maintains eye contact with the audience.			
4. The speaker only glances at the speech for key words and main points, not reading the speech word for word.			
5. When appropriate, the speaker uses gestures and nonverbal language to accentuate his/her points.			
6. The overall presentation of the speech is interesting and effective.			

**Hunger Project Speech
"Donations: Why Are There So Little?"
Nick Swails, Moore Middle School**

I'm here to ask if you're willing to change the law that prevents restaurants from donating untouched leftovers to food banks or soup kitchens. If you don't help, you will have to see the hunger on people's faces on the streets of our community.

The outcome that I want to see is that more donations show up at food banks and soup kitchens. I would also like to see more volunteers collecting donations and volunteers for food banks and soup kitchens. Finally lesser signs of hunger in our community.

The problem is the law that prevents restaurants from donating untouched leftovers to food banks or soup kitchens. This problem effects people on welfare and also the homeless. I want to change this because it will improve our community.

This is how I plan to achieve this outcome: I plan on talking to someone in our government about the health law. If I succeed in changing the law, I will be able to talk to restaurants about donating food. If I don't succeed, I will know that I have taken the time to help.

Finally, if you are willing to help you will make a lot of difference in people's lives. If you help me achieve the outcome I want, it can happen. Plus, you will be volunteering to help solve a community problem.

Figure 7-3: Student Speech and Accompanying Rubric for Speech

PHASE V: EVALUATION & CELEBRATION

What was Learned and Accomplished?

Phase V is the stage where everything comes together as students are asked to look back on their work and evaluate its effectiveness (Table 7-9). At the same time, students can build on their service-learning work to share it with other audiences and to look for ways to extend their work beyond the original project. This is an opportunity to bring together the body of evidence collected throughout the service-learning process, which can be done through a student portfolio.

Processes The two central processes for students to exhibit in this phase are reflection and evaluation. Reflection focuses on helping student to understand what they have learned over the course of the project (personally, socially, and academically) while evaluation focuses on the success of the service-learning project(s) for the students individually, for the class, and for the community. The reflection that has been on-going throughout the unit at this phase is cumulative. Student products include a self and a group assessment of the learning and service goals agreed upon at the beginning of the unit.

Skills Not only do students need to understand the overall evaluation process, they will also need specific skills to effectively evaluate the unit in terms of service and learning goals. Such skills include basic qualitative and quantitative data gathering, comparative analysis techniques, and technical writing skills. Student products in this phase might include surveys completed and analyzed, evaluation documents, and student journals that document the project's effects. These products demonstrate student abilities to reflect on and evaluate the effectiveness of their service-learning work.

Knowledge The knowledge students might demonstrate in this phase address four areas of understanding:

- How food affects you at local and global levels;
- The processes, skills and knowledge it takes to evaluate "How food affects you and the world";
- How to design, implement and participate in an integrated service-learning project; and
- The role of youth in communities.

Instruction activities for this phase might include group discussions, school or community fairs, providing information to the community, and presenting at conferences. Student products that can be used to assess student learning could include posters, journals, portfolios, and videotaped testimonials produced collaboratively by students and others from the community involved in the project.

Table 7-9: Planning Template for Phase V

PHASE V: EVALUATION & CELEBRATION				
Content	Content Standards	Instructional Strategies	Student Products	Assessment Strategies/Rubrics
<p><i>Processes:</i></p> <ol style="list-style-type: none"> 1. Reflection process that allows students to individually assess what they learned. 2. Evaluation process that allows the group to evaluate the success of the project. 	<ul style="list-style-type: none"> • Math: 5 • Science: 1 	<ul style="list-style-type: none"> • Activities that help students explore whether the project accomplished its goals • Reflection, on-going throughout the unit, is done here as cumulative reflection (about the entire project) 	<ul style="list-style-type: none"> • Self-assessment of learning and service goals • Group evaluation of the project's learning and service goals 	<ul style="list-style-type: none"> • <u>Self-assessment</u> of learning and service goals • <u>Journal/Essay</u>: Were individual learning and assessment goals reached? Why or why not?
<p><i>Skills:</i></p> <ol style="list-style-type: none"> 3. Reflection skills that illustrate various ways of going through the <i>What?</i>, <i>So What?</i> and <i>Now What?</i> process. 4. Evaluation skills including basic qualitative and quantitative data analysis techniques. 	<ul style="list-style-type: none"> • R&W: 2, 3, 4 • Science: 1 • Math: 3, 5 • History: 2 	<ul style="list-style-type: none"> • Discussion and activities that help students understand the importance of evaluation and procedure required to do it effectively • Group-generated recommendations about how the project could be better (be sure to include community members and administrators) 	<ul style="list-style-type: none"> • Evaluation documents • Surveys, interviews, tests used to measure effects of project • Journal 	<ul style="list-style-type: none"> • <u>Journal</u>: Have students evaluate the program by asking, "What happened? How did it impact the community? What could be done differently?" etc. • <u>Evaluation</u>: Have students write up a formal evaluation based on diverse sources of data including results from surveys, interviews, tests, and observation
<p><i>Knowledge:</i></p> <ol style="list-style-type: none"> 5. Understanding of how food affects "you" (local level) and "the world" (global level) 6. Understanding of what it takes (processes, skills, knowledge) to address the question "How does food affect you and the world?" 7. Understanding of how to design, implement, and participate in an integrated service-learning project 8. A broadened conception of the role of youth in communities — and communities in schools 	<ul style="list-style-type: none"> • Science: 1, 3, 5, 6 • Economics: 1, 2 • Geography: 2, 4, 5, 6 • R&W: 4, 5 • Civics: 4 	<ul style="list-style-type: none"> • As a group, decide what evidence best addresses the question, "How does food affect you and the world?" • School or community "Fair" that showcases all the products generated during the unit that contribute to the question "How does food affect you and the world?" • Brainstorm next steps for project • Students provide assistance and information to people and organizations that want to know more about issues raised in the brochure(s) • Present at state and national service-learning (and other) conferences 	<ul style="list-style-type: none"> • Products and displays for fair • Journal • Portfolio • Videotaped testimonials by students on <i>What? So What? Now What?</i> for overall unit 	<ul style="list-style-type: none"> • <u>Portfolio</u>: Compilation of student work, assessed based on a rubric designed collaboratively in Phase I. • <u>Journal</u>: Although journals were read and evaluated throughout the unit, they can also be assigned a final grade based on the criteria and rubric designed in Phase I. • <u>Individual Products for Fair</u>: Student products (displays, charts with text, music, etc.) Can be assessed based on criteria designed collaboratively by students, teachers, and community members.

Instructional Strategies: Portfolios as the Culminating Assessment of Service-Learning

Each student can be asked to compile a formal portfolio over the course of the service-learning unit. The portfolio represents the students' selection of evidence of mastery of identified processes, skills, and

knowledge related to the Colorado Content Standards acquired during the unit. Portfolios can be assessed using a rubric that helps determine how well students addressed the original inquiry question “How does food affect you and the world?” with an emphasis on the claims they make and the evidence they present to support their claims. Below are some suggestions for how we help students organize these portfolios.

We ask students to use their portfolios to tell a coherent story about how food affects you and the world told through their own eyes. It is organized with tabbed dividers for each phase of the unit (Planning, Global Research, Local Research, Implementation, Evaluation and Celebration). Within each section, students list the content standards they mastered, including evidence for how they met the standard. The evidence includes a description written by the student along with artifacts, products, and/or assessments that relate to that standard — including selections from their service-learning journals. The portfolio should provide evidence and critical analysis of the service and learning goals determined at the outset of the project.

Portfolios should be standardized in terms of the required content, but allow for personalization at the same time. By establishing criteria for what should be included in the portfolio and providing organizational guidelines, you can assure that the important information is included. Within these parameters, students are free to select work that represents their individual learning from this service-learning unit. In this way, portfolios can be a powerful tool for accountability that honors the personal learning styles and needs of each student.

Conclusion

Through the process of developing this unit, the members of our study group learned we didn’t need to rethink our assessment practices as much as we needed to rethink our assessment perspective. As experienced teachers, we already had a lot of tools and strategies to assess student work. We discovered that we didn’t need new techniques for assessing what students learned through service; we simply needed to become more clear on what standards are addressed in service-learning and what evidence of achievement is produced that we can then assess.

Our planning template allowed us to see how standards, instructional strategies, products, and assessment are all tied together. As we laid out each phase of the service-learning process, we came to realize how well service-learning itself serves as a vital piece of the assessment process. In each phase, numerous standards are addressed and a variety of products are created that serve as evidence of student learning. With this evidence in hand, it is relatively easy to provide feedback and evaluation of this work based on rubrics that articulate criteria of quality.

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IMPROVING TEACHING AND LEARNING IN NEW HAMPSHIRE THROUGH EFFECTIVE ASSESSMENT OF SERVICE-LEARNING

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Abstract

Challenged to find teachers in New Hampshire who felt confident about assessing what students learn through service, the New Hampshire study group began a dialogue with other groups around the state about assessment. Eventually they initiated case studies at two schools during which they coached four teachers in effective assessment practice. They developed a "Planning and Reflection Tool" that defines "Elements of Student-Centered Instruction and Service-Learning" to help with their coaching process. The case studies they present in this chapter offer a first-hand account of how two teachers' understanding of assessment changed, and what they learned about effective assessment of student learning through service.

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**The Stratford Public School: A School-Wide Focus on Student
Learning 8-10**

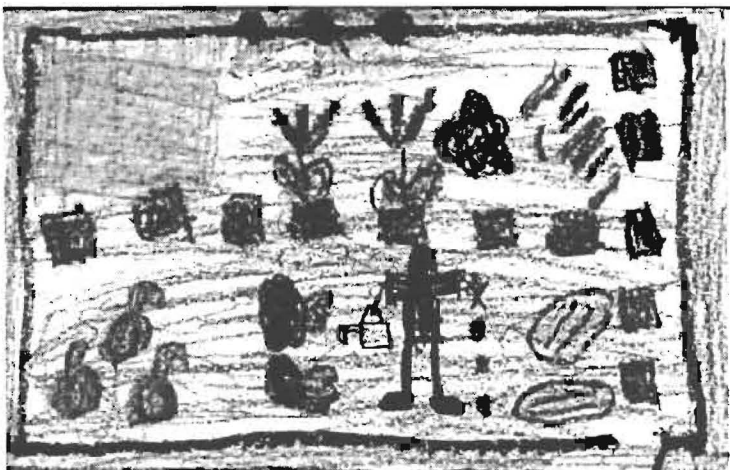
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State Context

Service learning is just beginning to take hold in New Hampshire. As a state with a long and strong tradition of local control (and among the least generous states in the US in terms of state funding for schools), new ideas are slow to travel through the state. Teachers and schools are relatively free to try new approaches on an individual basis, but statewide networks to support innovation are relatively rare here.

Like most other states, New Hampshire has developed State Curricular Frameworks in recent years. Although there are recently published Career Development frameworks that address a variety of skills such as decision making and self-management, at the time of this project, the frameworks were exclusively focused on the core academic subject areas of English, Science, Social Studies, and Mathematics. Unlike neighboring states whose frameworks included overarching skills or orientations such as civic responsibility and problem solving, New Hampshire's frameworks primarily targeted content and thus did not directly address many of the virtues promoted by service-learning. Educators in New Hampshire are well aware that educational policy making is a politically charged issue and the state frameworks, as well as other school issues, must account for the unique political realities in the "Live Free or Die" state.



IMPROVING TEACHING AND LEARNING IN NEW HAMPSHIRE THROUGH EFFECTIVE ASSESSMENT OF SERVICE-LEARNING

Introduction

After wrestling for some time with service-learning and assessment issues, our New Hampshire Service-Learning Assessment Study Group (NHSLASG) attempted unsuccessfully to find examples of good assessment practice around service-learning in New Hampshire. For the most part, with service-learning just coming into prominence, the complex issues of assessment had not had extensive consideration when we began this project. Rather than simply document what was happening around service learning and assessment in NH, we chose to develop an individual coaching model to help teachers develop and refine their approach to assessment of student learning through service.

We recognized there were two critical factors to the success of service learning and assessment for any teacher. First, there was the level of school and community support for the service-learning approach. Second was the teacher's attitude, experience, and understanding of best practices in service-learning and assessment. To help us and other teachers assess and improve the condition of service-learning and assessment for any individual teacher, we created a Planning and Reflection Tool that asked teachers to consider their own assessment and service-learning practices as well as the school support for service-learning. This tool helped us identify teacher strengths and weaknesses and gave us a starting point for our coaching approach to improving service-learning and assessment practices in the state.

In the end, we chose to focus on four teachers who represented developing skill levels in the assessment of learning through service. Three of these teachers worked at a school in which service-learning is part of a school transformation process that has invigorated the community and motivated student learning. The fourth is highly committed to service-learning but works with little support at her school. Needless to say, the level of school support matters—a lot. In a supportive environment, teachers are free to try new ideas; they learn from each other, and resources are there to make things work. Without these supports, individual teachers can heroically make things happen, but consume tremendous energy trying to make their dreams a reality. Meanwhile, their isolation limits the possibility to learn from sharing successes and failures with others and constrains what can be accomplished.

However, as we hope to show, structures can be developed to help all teachers improve their practice regardless of their school circumstances. Our Planning and Reflection tool, combined with a peer coaching system and support structures such as our State Study Group, have helped

improve the practice of service-learning and assessment in New Hampshire. This chapter shares the learning of two of these teachers.

Two Case Studies:

The One-on-One Assessment Coaching Model

Sue's Garden:

Working in Isolation to Make Miracles Happen

Sue is a believer in service learning. Her eyes gleam in the early morning sun as she buzzes about her second-graders' school garden. The walls inside her classroom are full of joyous examples of student thinking and learning. Complex maps of students' ideas for the garden's design are on one wall. Self-portraits showing the things children like most about working on the garden are on another. Sue's School Garden Project has been a huge hit with her students and their parents. For two consecutive years, Sue's students have studied about plants and the roles that gardens have played in the lives of people in their town throughout its history. They have carefully located, designed, and planted their garden taking light and the sun's changing shadows into account. They have grown their own vegetables and flowers from seeds that germinated in a large, plastic, soil-filled, swimming pool in their classroom. They have used their plants and flowers to beautify the school and made donations of food from the garden to a local Food Bank.

Still, Sue isn't satisfied because she sees so many more possibilities for learning in this approach. She wants to take her students out into the community. She wants them to have a broader experience than simply planting and tending the garden in the dust of the school yard. She wants them to meet the people who manage and use the Food Bank, to see how it is set up and used by people in the community. She wants them to talk personally to senior citizens about their memories of canning, and victory gardens, and changes in how people get their food. But these options are difficult to access for Sue and her students because her school board recently passed a policy that severely limits all field trips. These trips are viewed as expensive and ancillary to real learning. At Sue's school, teachers and students are expected to be in the classroom, doing "school work": teachers teaching, students learning. The "field trip policy" was established to enforce these "mental models"—this belief system about what teaching and learning means. Changing the board's traditional views about teaching and learning will be difficult, perhaps impossible. For now, Sue's and her students' options are limited by the board's thinking about what it means to learn. It follows then, that educational ideas like "Service Learning," "Experiential Learning," and "Teaching for Understanding" will have little currency at her school.

Sue's garden is an island of light in a gray sea of worksheets, rote learning, and abstraction. Despite the fact that she and several of her colleagues took a service-learning course together three years ago, and

the fact that the school has received grant funding to support service-learning, Sue is the only teacher at her school still using service-learning as a way of bringing engagement, excitement, and purpose to learning. She feels isolated and professionally at risk as she tries to implement her service-learning projects. Yet, year after year, Sue persists. She works to instill a love of learning in each one of her students, hoping that it will not be snuffed out over time by “a system” that promotes a certain set of beliefs about what it means to learn. Sue knows in her heart that her students are learning more through this project than would be possible through a traditional classroom-based approach to teaching, but she doesn’t know how to prove it.

All of her confidence and aplomb were gone as soon as the topic of student assessment was mentioned. “Assessment,” Sue said last fall, “I’m terrible at that part.” Sue is not alone in these feelings about assessment. Over the past three years the NHSLASG has found excellent teachers across the state who lack confidence and skill in the field of student assessment. And it is difficult to support the claim that service-learning works when you can’t really show skeptics the evidence.

One-on-One Assessment Coaching

To learn what works when it comes to helping our fellow teachers gain confidence and skill in the complex fields of service-learning and student assessment, we chose to engage in an individualized assessment coaching pilot project. Sue volunteered to participate along with three teachers from the Stratford Public School in Stratford, New Hampshire. We chose Sue for this pilot because she was obviously committed to using service-learning in her classroom. We also chose her because her school system is not unusual in conservative New Hampshire. Stratford teachers, on the other hand, were selected because Stratford has spent years developing and implementing a highly successful system of student assessment and more recently, has adopted a school-wide (K-12) approach to service-learning. We believe that looking at both schools will help to highlight key elements of effective assessment and the conditions that support wider acceptance of service-learning as pedagogy.

Our coaching process was very informal and consisted of a set of four or five face-to-face conversations over four months, along with e-mail and several phone calls between the teacher and coach. During our initial meetings we talked about some key elements of “educative” assessment (see Stiggins, 1997; and Wiggins, 1998), authentic instruction (see Newmann and Wehledge, 1997) and service learning (see Wade, et. al., 1997). We also created and used a checklist that we called the *Planning and Reflection Tool*. (**Appendix 8A** shows the complete *Tool*, the four parts of which are explained in the course of the chapter.) An important goal of these sessions was to find out what the teachers already understood about service learning and assessment.

Through intermittent conversations, e-mail communication, articles, and discussions of various assessment tools and processes, the teachers had enough information to try out some new approaches to student

assessment as they implemented their service-learning projects in the spring of 1999. While this process is in its very early stages of development, it was clear from this dialogue that in thinking and talking about assessment issues, teachers learned a lot about what could improve their practice. The highlights of their learning are described below.

Sue's Learning

Assessment as an Ongoing Process One of Sue's first discoveries from our conversations was the idea that assessment is a process, not something that just happens after learning is all over. She loved the idea that assessment is not only about grading and therefore it occurs before, during, and after teaching and learning happens.

"I just never thought of it that way, I guess," Sue said. "It's so simple to look at assessment as part of teaching, but that's not what I was taught or what I experienced in school."

Sue was asked to think about what she wanted her students to learn, what she wanted them to really understand when they finished their garden unit. We asked her to consider not just the curriculum content, but what she believed were the most important concepts or skills they could develop. The notion of prioritizing student learning goals and then communicating those goals to her students, right from the start was another new idea for her. She appreciated this idea of "the no surprises...no excuses...approach to learning" (Wiggins) where there are clear, specific, publicly stated, learning targets to guide student work.

Using Assessments to Inform Teaching Sue now looks more critically at the purposes of assessment. She sees the need to change the ways that her school uses standardized tests as an annual ritual for auditing student learning, but then fails to use the information constructively.

"I will never again willingly do an assessment on a child if I am not going to evaluate it (the assessment information) and then use it for my next teaching step. That is so far from what we are taught...we're told to just grade it, and give it back. I never thought so much about how we need to use the information to re-teach."

Through her service learning efforts, Sue has learned the importance of *formative assessment* — using the results of student assessments to inform teaching decisions.

"It's silly, we really need to start changing everything about how schools are run...especially ...when we have to give a test, and no one can tell me why or what we are using it for...I don't have time to be wasting (on tests we don't use) and neither do my kids... To me a short, sweet piece of assessment...one that I can do and use in ten minutes time, is worth more than a reading evaluation or

writing evaluation that's going to take me an hour and that I am not ever going to look at."

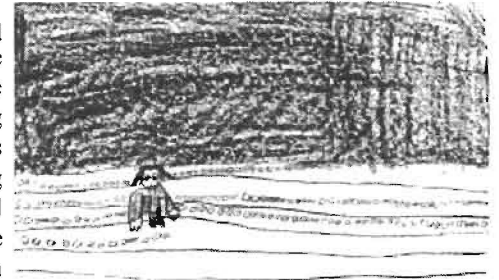
Learning Outcomes and Prioritizing As Sue recognized the importance of using assessments to inform practice, it became more clear to her how she needed to identify learning outcomes and prioritize essential skills and knowledge. (Indeed, this work of prioritizing long lists of desired learning results is what most state assessment programs including New Hampshire's have not yet done. Teachers report feeling buried in mountains of learning goals, all of which appear to be of equal importance.) Sue realized that it is up to her and her school to make choices about what the most important concepts and ideas are in a given field of study for their students. It follows that when we narrow the focus of learning to include the most central or important themes or concepts, then we can spend time addressing and assessing students' understanding of the concepts to ensure that all students understand and can apply them. These were empowering new ideas for Sue.

"I love the model of starting with what we want them to know...what do I want them to get out of it? What is the end piece? What is the big picture? That... I will always ask myself from now on. What is the point of this activity or chapter or exercise? What do I want them to walk away with...? What can I teach them that will be worthwhile enough for them to remember? I wish so badly when I was a kid that somebody did that for me."

Using Pretests For Sue, pretests have become valuable to get baseline data on students' prior knowledge. This both informs her teaching practice and allows her to document growth through a learning experience.

"I think that an essential part is finding out where they are...what they know... and where you can go... I need to do more on pre-assessment in general...to me, that's far better teaching. Teachers need to think, 'What do they already know?' I don't want to reinvent the wheel. If they know it, I don't want to teach it to them again. Pre-testing works." (Figure 8-1)

The Importance of Reflection Sue also sees the importance of reflection to help students make cognitive connections. It is clear from research on thinking and the brain that this is a critical element of learning. By linking this reflection process to self-assessment and revision, Sue finds she is able to improve the level of quality of student work.



the garden will be better when we are done. I like the garden because we get to plant the seeds.

Garden Pre-Test

- What do you need to have a good garden site? List 4 things.
- What do plants need to grow? List 4 things.
- List garden chores that will help the garden be successful (4 things)
- How do bees help the garden?
- How long will it take for the plants to grow and provide food?
- How often should you water the garden?
- Why should we pull up the weeds in the garden?
- What were gardens used for 100 years ago?
- What are they used for now?
- List 3 different types of gardens.
- What animals might be harmful to a garden?
- What animals might be helpful to a garden?

Figure 8-1: Sue's Garden pre-test.

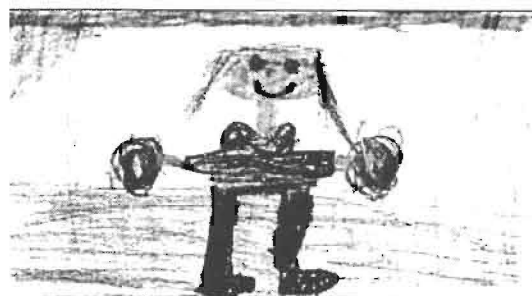
“Reflection... is a key part of assessment ...If kids don’t reflect on what they have done... then a lot of the learning is gone. Little kids can reflect in a lot of ways... through pictures, through writing... we can use whole group reflection....You can teach them that if something doesn’t go right it’s okay....we can fix it. So, reflection really helps them evaluate themselves.”

Observation as Informal Assessment Sue makes a powerful case for the importance of informal assessments, especially observation. This is the essence of *assidere*, the French word meaning *to sit beside* from which the word *assessment* is derived. Sue is discovering the power of “sitting beside” her students as a way of informally, yet deeply, learning about their individual levels of understanding. Observing her students as they studied the bees helped Sue see the power of authentic, formative assessment.

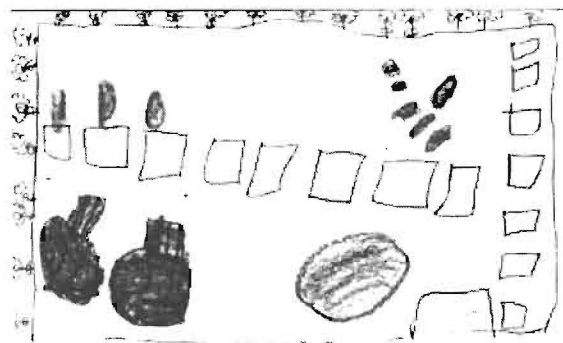
“Assessment doesn’t have to be written ...Working in the garden two days ago, I was astounded to hear kids talking about why they have to pull up the weeds, and why the other kids shouldn’t be afraid of the bees... because they were just doing their job pollinating, so that more flowers can grow. One student actually said, ‘Of course we want more bees to come when the pumpkins grow, because otherwise the pumpkins won’t be there if the bees don’t pollinate the flowers.’

I could evaluate their learning right there in the garden, and I said to myself, ‘I don’t really need to do more work on why we need bees in our garden...They knew why they should be there and they knew why we should have flowers in our garden...not only to make the school pretty but because they really were going to help us attract bees.’

To hear them use the language and to observe them doing their work is a great way to evaluate them....Just be a good observer and you will know what they have learned.”



Rache
it's fun you get
to help the school



Amanda wrote: “I like gardening because it shares food.”

Planning & Reflection Tool: The Assessment Process

The Planning and Reflection Tool helped Sue to reflect upon her understanding and use of assessment (**Figure 8-2**). She felt very good about the progress she has made on improving her assessment practices as a result of the coaching experience.

Part II: Assessment Elements

Never Sometimes Routinely The assessment strategy has these characteristics:

- | | | | | | |
|---|-------|---|-------|---|---|
| 1 | ----- | 2 | ----- | 3 | a. An obvious, overriding purpose for the work exists. |
| 1 | ----- | 2 | ----- | 3 | b. Specific learning goals/targets are effectively communicated to students. |
| 1 | ----- | 2 | ----- | 3 | c. Acceptable standards of quality work provided or jointly designed. |
| 1 | ----- | 2 | ----- | 3 | d. Student understanding of goals and expectations for quality is checked. |
| 1 | ----- | 2 | ----- | 3 | e. Pre-instructional assessment of students' prior knowledge adjusts teaching. |
| 1 | ----- | 2 | ----- | 3 | f. There is a direct audience for the work. |
| 1 | ----- | 2 | ----- | 3 | g. Learning activities produce evidence of understanding, knowledge, or skill. |
| 1 | ----- | 2 | ----- | 3 | h. Continuous feedback for purposes of assessment is offered. |
| 1 | ----- | 2 | ----- | 3 | i. Learning is exhibited in a real-world context. |
| 1 | ----- | 2 | ----- | 3 | j. Performance is judged by local experts and/or real-world standards of quality. |
| 1 | ----- | 2 | ----- | 3 | k. Multiple sources of evidence of learning are gathered and judged for final evaluation. |
| 1 | ----- | 2 | ----- | 3 | l. Reflection is used throughout the learning process. |

Figure 8-2: Sue's response to Part II of the Planning and Evaluation Tool.

Her future assessment goals are to continue to work on providing more opportunities for the public to serve as an audience for student work, and to create more opportunities for her students to exhibit their learning in a real-world context. She believes these strategies will accomplish two important things. By involving more community members and parents in her classroom assessment practices, she believes that her students will take their learning even more seriously and become more focused on demonstrating that they have met their learning goals. Secondly, she hopes that the parents and community members themselves will begin to gain better understanding of the excitement and learning that service-learning can generate in a school if she involves them more in the process of assessing student's work and learning.

This veteran teacher has created a learning community within her classroom where students work together, enjoy each other, and accomplish a great deal. Besides the garden, Sue's students developed the school's first student newspaper. As Sue continues to apply some of her new thinking about student assessment, she may well be able to "prove" that they are learning much more than "the basics." Over the past two years, her principal has openly supported the garden and the school newspaper and has been enthusiastic about all of the work she is doing in her classroom. Increasingly, he has been asking Sue to speak out at teacher's meetings about her work with students and service-learning. Given the support of this key administrator, there is even greater potential that, together, Sue and her principal will be able to change some of the current thinking about student assessment and service-learning in their school and community.

The Stratford Public School: A School-Wide Focus on Student Learning

One hundred and sixty miles north at the Stratford K-12 Public School, the school's letterhead reads, "Stratford K-12 Public School, where children and their learning come first." In this rural, isolated, little community, service-learning is becoming an integral part of that learning. The strong support of the school principal has helped encourage the growth of service-learning in Stratford. Further impetus for service-learning comes from having a finite and focused list of "Exit outcomes for Success" developed through a process that involved hundreds of people in the Stratford community.

This list of student learning competencies or "life-role outcomes" (shown in **Figure 8-3**) is everywhere in evidence at Stratford. It is posted on bulletin boards and walls throughout the school. The eleven Exit Outcomes form the basis for a K-12 student portfolio assessment process that provides evidence of progress toward these goals for every Stratford student. It is clear that these goals for student learning are taken seriously and that they are seen as "targets" for teaching and learning throughout the school system. These targets are the beginning point for effective teaching, learning, and student assessment.

Exit Outcomes for Success

Every student in the Stratford Public School will demonstrate competence in each of the following outcomes. Each student will show that he/she is:

- adaptable to change,
- an effective communicator,
- a creative problem solver,
- an informed decision maker,
- an inventor and producer,
- a responsible contributor to our school and community,
- a self directed learner,
- a creative thinker,
- respectful of differences,
- someone who has acquired a life-long love of learning,

Service-learning Strategies Linked to Exit Outcomes

As teachers watched their students become involved in their service-learning projects, they realized that many or most of these eleven learning outcomes were being addressed as students engaged in service-learning experiences. Service-learning also offered teachers opportunities to collect evidence of their students' learning in each of these areas. As the service-learning projects unfolded, the portfolios became stuffed with a wide variety of indicators of learning. Students reflected on their learning and the impact of their work in the community. Students planned, designed and created products, and improved the quality of these products based on teacher feedback, coaching, and conversations about quality work. The portfolio process eventually became linked to graduation, thus the term Exit Outcomes. There was no question in the minds of both students and teachers that these learning competencies were something to be taken very seriously and service-learning seemed to be a great way to generate skills and authentic, performance-based evidence of them.

As service-learning has become more prevalent at Stratford, teachers have looked for support to improve their assessment practices. With the help of our state study group coaching, several teachers here were able to reflect on their understanding of student assessment. Like Sue, this coaching helped them identify key features of assessment to improve their practice. We look at what one of these teachers learned below.

Lovall's Greenhouse

Lovall is a high school math and physics teacher at Stratford. Some of his students have not had much success in the school's academic programs; many have exhibited challenging behaviors in the past. Lovall had students in his Applied Math class develop a survey of the school's teachers and community members to determine a need upon which he might focus a service-learning project tied to his class. Many expressed the idea that a school greenhouse would be something that lots of classes could use at the school; some thought a greenhouse would be also be an asset for the community. After much deliberation, Lovall's students agreed to build a greenhouse.

This seemed to Lovall like a perfect way to teach students a good many of the math, planning, drawing, and design skills that were part of his curriculum. The Greenhouse Project also offered endless possibilities for students to further enhance and document their learning in each of the eleven exit outcomes (especially *effective communicator, creative problem solver, self-directed learner, responsible contributor to the community*).

Work on the greenhouse began with a design contest calling for student proposal presentations to the class. After much Internet research and an analysis of the pros and cons of wood versus steel frames and plastic versus glass, Lovall and his students discussed the feasibility for each design, and chose one design they felt was most desirable. Then, Lovall told his students that they would have to create a presentation of their final proposal for the school board to get their okay to build the greenhouse on school grounds.

Student-Defined Criteria Lovall had his students generate criteria for an outstanding board presentation before they started planning. "What would we need to do to make an outstanding presentation to the board so that we can get permission to build our greenhouse on school property?" he asked his students. The students decided that a set of posters showing the various elements of their greenhouse would be a good idea for their presentation to the board. They also felt that flip charts showing all their key information would be important. Effective speakers, the students agreed, would need to be selected from the class to take the lead in the presentation. They brainstormed a long list of attributes, discussed what each meant, prioritized them, and generated checklists for their presentation. This was Lovall's first attempt at having students develop quality criteria, so he kept it simple. **Figure 8-4** shows the list the students gave to the board members at their presentation to help the board assess their flipcharts.

Flipchart Checklist/Evaluation					
	1	2	3	4	
1) Could you read the words on the pages?					
2) Do you think all the tools that are needed are on the tools list?					
3) Do you think the pages on the flip chart were neat?					
4) Was the flip chart presented well?					
5) Was the presentation colorful?					
6) Did the presentation catch your eye?					
7) Did the flip chart help you understand the presentation better?					
8) Did the flip chart help explain what we are using the greenhouse for?					
9) Did the presenters explain where we are going to get the money?					
10) Did the master plan page give you a picture of how it will look?					

Figure 8-4: The students' checklist to evaluate flipcharts.

Weekly Planning Sheet		Week of _____				
Project Title:	Time Spent in Work Sessions: M T W Th F					Total Time Worked:
Facilitator:						
Documentarian:						
Spokesperson:						
Other:						
Weekly Goals:	Deadline:	Person Responsible:			Completed:	
1.						
2.						
3.						
4.						
5.						
6.						
By the end of this week, the following finished products will be turned in for grading:						

Figure 8-5: Lovall's "Weekly Planning Sheet" helped students stay organized and on task.

Although the board did not finally approve the greenhouse, the students did not give up; they approached the owner of a neighboring property and got his permission to build the greenhouse near the school.

Balancing Student Self-Direction with Teacher Input

As the greenhouse project unfolded, Lovall sent an e-mail saying that it was difficult at times to keep students on task, making progress and doing the kind of quality work he had expected. We had a conversation about the teacher's role as facilitator and guide in any service-learning project and how clarifying expectations for quality work was an essential part of both effective teaching and effective assessment. He agreed that he would spend time with the students setting clearer standards of acceptable student performance.

"I was really trying hard to stand back and let it be self-directed," said Lovall. While allowing students the autonomy they need to solve problems independently and to make their own decisions and mistakes, he found that it is also important to balance student voice and choice with clear expectations and accountability for performance. This is difficult for many teachers, but we agreed that this kind of balance was needed. We spoke about the notion that "in a student-centered classroom, everybody's voice gets heard....even the teacher's!"

Providing Tools to Support Learning Finding the right balance between student autonomy, teacher direction, support, and feedback is nearly always a difficult part of the service-learning journey. Lovall provided his students with a Weekly Planning Sheet (**Figure 8-5**, opposite) to help structure their thinking and work on the project. Using this sheet, they set personal goals, developed timelines, and indicated the kinds of products or performances they would complete for each checkpoint. He used this form to provide feedback to students on their progress toward completing the greenhouse or other projects.

Planning and Reflection Tool: Instructional and Service-Learning Elements

When teachers scaffold service-learning strategies into specific steps and align activities with learning goals that culminate in a set of products or performances to show student learning, a complex web of instructional and assessment elements are woven together to create a rich learning experience. Because it can be challenging to keep all these elements in mind simultaneously, we created the Instructional Elements (**Figure 8-6**) and Service-Learning Elements (**Figure 8-7**) checklists as part of the Planning and Reflection Tool to help guide teachers through some key decisions and to clarify the many aspects of this approach to effective student-centered teaching.

Part I: Instructional Elements

Never	Sometimes	Routinely		The instructional strategy:
1-----	2-----	3	a.	encourages student autonomy and initiative
1-----	2-----	3	b.	uses primary sources, data, manipulative, or interactive materials
1-----	2-----	3	c.	asks students to do things like, "apply, analyze, predict, create, design"
1-----	2-----	3	d.	allows student interests and choices to drive or alter the focus of learning
1-----	2-----	3	e.	asks about student understanding before sharing teacher thoughts, ideas
1-----	2-----	3	f.	builds on students' prior knowledge; asks student to build on their answers
1-----	2-----	3	g.	provides challenges, asks interesting, open-ended questions so students must really think
1-----	2-----	3	h.	provides students with opportunities to voice their opinions and concerns
1-----	2-----	3	i.	allows for teacher voice and participation as a partner in the learning process
1-----	2-----	3	j.	uses metaphors and images to express or represent key concepts
1-----	2-----	3	k.	nurtures students' curiosity

(add up this set of scores) Instructional Sub-total _____

Figure 12-6: *The instructional elements encourage experiential learning and student engagement.*

Using the Planning and Reflection Tool Lovall's assessment strengths included providing specific learning goals and targets for his students, and using local experts and real world standards to judge students performances. Reflecting on this experience, Lovall identified areas for further growth that included collecting multiple sources of evidence of student learning, and doing better pre-post assessment of student learning. Lovall has begun to think more about how effective assessment practices can strengthen his teaching and student learning. In addition to inspiring his students to complete work that was meaningful to them and the school community, the Greenhouse Project gave Lovall an opportunity to wrestle with many of these assessment issues.

Part III: Service Learning Elements

Never	Sometimes	Routinely		The service-learning strategy:
1-----	2-----	3	a.	is designed to facilitate academic learning and citizenship
1-----	2-----	3	b.	meets a compelling community need that is of interest to students
1-----	2-----	3	c.	provides opportunities to work collaboratively and to think critically
1-----	2-----	3	d.	provides opportunities to take on new roles
1-----	2-----	3	e.	provides opportunities to take risks
1-----	2-----	3	f.	includes adult supervision for students
1-----	2-----	3	g.	expects sustained effort, preparation, and independent work
1-----	2-----	3	h.	recognizes and celebrates student competencies
1-----	2-----	3	i.	includes a final product or service that makes a meaningful contribution to the community
1-----	2-----	3	j.	connects the school to partners or sponsoring organizations in new ways

(add up this set of scores) Service Learning Sub-total _____

Figure 8-7: *These elements help remind teachers of best practices in service-learning.*

Planning and Reflection Tool: Institutional Support

In comparing the experiences of the two teachers in these case studies, we clearly understood the significance of institutional support. The final section of our Planning and Reflection Tool (**Figure 8-8**) asks teachers to think about and evaluate their school and the extent to which it offers them support for doing this kind of teaching and assessment. It also asks them to rate the role they themselves play in their school to advocate for service-learning as a powerful strategy for teaching and learning.

Never			Sometimes			Routinely			At my institution:		
1-----	2-----	3-----	a.	Service-learning is part of the educational mission of the school.							
1-----	2-----	3-----	b.	Support exists among colleagues, and administration for service-learning.							
1-----	2-----	3-----	c.	School policies support implementation of service-learning.							
1-----	2-----	3-----	d.	Resources such as time, transportation, and budget are available to support service-learning.							
1-----	2-----	3-----	e.	I actively advocate for service-learning in my school and or community.							
(add up this set of scores)									Institutional Support Sub-total_____		

Figure 8-8: *These elements help teachers and administrators reflect on the level of support they have achieved for service-learning.*

Case Study Conclusions

Effective student assessment is “educative” assessment. Early assessment decisions help teachers and students identify learning goals and shape their experiences to reach these goals and achieve quality performance. These community service learning experiences, when linked to important, carefully selected learning goals, provide for personally transformative and highly challenging academic learning. This can make rigorous learning more accessible, meaningful, and attainable for all students.

Good assessment practices that inform teaching before, during, and after instruction will change service-learning projects from ones that merely engage students in service, to ones that utilize the power of service to a community in order to provide context, relevance, and personal meaning to the achievement of targeted learning outcomes. In addition to having a profound impact on students, service-learning can help provide rich and concrete evidence of student learning.

The Wrestling Match: New Hampshire's Study Group Story

Imagine the frustration of wrestling not one opponent but several at once. Just as you think you've pinned one down...bingo...there's another one on your back. This scenario bears a striking resemblance to the work that the New Hampshire Service Learning Assessment Study Group (NHSLASG) has done for the past three years.

Our first year "in the ring" consisted of five three-hour evening meetings where we debated such issues as the value of required Community Service and the role of community service as a context for student academic learning and citizenship. Our discussions were interesting, often circular, somewhat ideological, and for most of the group, rather frustrating. But each time we met, we enjoyed hearing one another's perspectives and getting a chance to discuss these issues. Each meeting, things got a little clearer. We read articles and learned from presentations by group members on Service Learning, Multiple Intelligences, Thinking Maps, and performance-based assessment. We were enjoying being a study group.

In year two, in four meetings and an overnight spring retreat, we wrestled with the meaning and nature of student assessment. (In retrospect, we realize that we barely scratched the surface of this complex field.) We talked about testing versus assessment, about criteria, performance assessment, portfolios, checklists, rubrics, state learning frameworks, and how to best use all these tools and processes. We collected piles of sample rubrics. We tried to show how some of these tools were going to be the magic bullets for capturing the learning that we all knew happened through service learning. We thought we might thereby "prove" the value or efficacy of service learning, and that this would help educators justify the time and effort it takes to do service-learning well.

Towards the end of year two, we submitted our pile of assessment tools to the National Service-Learning Study Group. They poured over our state's tools, along with those from other states, and finally concluded, as we had, that assessment tools alone were not going to be much help in our national quest for answers to the problems of effective assessment of learning through service. No single tool seemed capable of capturing student learning. Since these tools could not be used or useful without knowing the project, the students, and the context, it was difficult to appreciate their utility. After this discovery that there may be no easily accessible tool to apply to service-learning, our study group's energy and commitment began to wane. Several study group members changed jobs and moved, several got busy on other projects. In year three, only three members of the starting team returned to the ring for more.

As luck would have it, we hung in there and found that many of the contacts and conversations developed by the NHSLASG in the first two years suddenly began to pay off. Our relations with Campus Compact of New Hampshire, a few other K-12 teachers and administrators, and several faculty from teacher education programs in New Hampshire have jelled into a rather effective statewide service learning assessment partnership

that we are beginning to call the New Hampshire Service Learning Network (NHSLN). Together, we are working as a group of concerned educators committed to moving our state forward in both service-learning and educational assessment. We are excited that this work is just beginning and will last well beyond the life of the federal grant that initially gave us life.

To accomplish the goal of improving professional practice in the fields of assessment and service-learning, we have created a statewide series of professional development forums and assessment resources for Kindergarten through Higher Education (K-H) teachers. We briefly describe some of our recent partnership activities below.

The NH Service Learning Network Over the past year, the partners described above have jointly sponsored three Service Learning and Assessment conferences for New Hampshire educators K- H. The first conference unveiled the results of a study of service-learning in the state, showing that professional development in the area of student assessment was a primary concern.¹ Given the need indicated by our research and the high level of interest in the subject at our first conference, we planned and organized two more professional development workshops on assessment and service-learning in the first half of 1999. Over 120 K-H educators have come together to talk to each other about effective teaching using service-learning, to learn new assessment ideas and practices, to plan new assessment strategies, and to share the challenges all educators face in trying to provide quality assessment on student learning.

Despite positive feedback on these sessions, we understand that one-day workshops alone will not be enough to change assessment practices in our state, although they are a beginning. They can effectively raise teachers' awareness about some new techniques, purposes, and approaches to assessment. They can connect K-12 teachers, college professors, pre-service teachers, and service-learning professionals together in new ways that help them all learn from each other. Hopefully, they will also spark enough interest in the issues of service-learning and assessment so that next year our series of workshops and training will grow further. We plan to offer another series of increasingly complex professional development opportunities next year in hopes that educators, schools, colleges, and teacher education programs throughout the state will begin to make changes in the ways they think about and assess student learning, especially as it relates to service.

Web-Based Graduate Course Another resource that we created in year-three was a three-credit, web-based, graduate course called "Assessment and Student Learning: A Distance Learning and School Leadership Experience." Materials from the assessment trainings, as well as other sources, were pulled together and piloted this semester at New England College in this distance-learning based graduate course. Participants in this graduate course not only learned enough about effective student assessment practices to make changes in their own classroom

¹ If you are interested in the study, contact Campus Compact of New Hampshire, 116 S. River Rd., Bedford, NH 03110-6750.

practices, they are also providing leadership in their schools to facilitate dialogue and learning about better ways to assess student learning. This local leadership component is seen as an essential element of a statewide process of improvement. We learned a great deal through the initial pilot course and plan to make this course and the web site itself available to educators throughout the country in the near future. We hope that the course and web-site will become another avenue for sustained study and implementation of new assessment ideas in New Hampshire. (See us at <http://207.222.163.130/newenglandcollege/>)

Individual Assessment Coaching Lastly, we piloted an Individual Assessment Coaching process this spring, which you read about above. It offers teachers much needed individual support as they work to better understand and implement new service learning and assessment ideas in their classrooms. This one-on-one approach to changing assessment thinking and practice has been a learning experience for all of us who were involved and offers a powerful lens through which to discover more about effective teaching and student assessment.

Wrestling may be a silly metaphor, but to us, it captures the complexity of the work we have been trying to do over the past three years. Our heroes are the committed K-H educators in the New Hampshire Service Learning Assessment Study Group and the New Hampshire Service Learning Network, with whom we have worked to better understand the complex relationships between service and learning. To all of you who have worked with or as part of our various teams, we thank you and wish you well in your continued struggle to improve teaching and learning in New Hampshire. We feel progress is being made toward improving educational experiences for our children thanks to the work of many dedicated New Hampshire educators. Service learning and improved assessment practices are both important contributors to that progress.

Sustaining This Important Work Fortunately, the goal of reforming and improving education through better assessment of learning is not unique to our New Hampshire Study Group or even to the New Hampshire Service Learning Partnership. Through collaboration and consultation with other leadership groups in the state such as those described above, as well as the New Hampshire Association for Supervision and Curriculum Development (NHASCD), the Governor's Best Schools Initiative, and others interested in effective schools and teaching, Service Learning and effective student assessment will continue to be addressed as one of our state's top priorities.

The NHASCD recently announced a major initiative for the 1999-2000 school year aimed at improving understanding of student assessment and informing professional practice related to assessment. The NHASCD will host a series of workshops and conferences featuring Grant Wiggins and Jay McTighe next year, called Understanding by Design. Members of the New Hampshire Study Group and the Service-Learning Network will be working closely with Dr. Leo Corriveau, President of the NHASCD, to enhance the statewide impact of the NHASCD's efforts. We will make

available the materials and resources described here to New Hampshire educators through these and other organizations.

Our web-based graduate course on student assessment will be available to teachers across the state through New England College in the Fall of 1999. This performance-based course will offer teachers opportunities to develop skills and engage in discourse with other educators who are also interested in learning more about effective assessment practices. The course will include a service learning component and enable professional educators to learn deeply about both assessment and service learning through their leadership and involvement in this course.

Each of these initiatives has been influenced by the work begun three-years ago by the NHSLASG. While we have been somewhat disappointed by our inability to find highly developed models of effective assessments of learning through service already in place in New Hampshire schools, we have had an opportunity to begin a statewide dialogue about the need to improve our base of knowledge and practice in the fields of student assessment and service-learning. Without the support of the National Study Group and the Corporation for National Service, New Hampshire would not be where it is today — poised to move ahead, on a state-wide basis, in our use of effective student assessment strategies to improve and document student learning through service.

Appendix 8A:

Planning and Reflection Tool:
Elements of Student-Centered Instruction and Service-Learning
W.K. Preble, 1999
New England College

Teachers can use this tool as a guide to planning service-learning projects or lessons, or to self-assess, reflect on, and modify their service-learning strategies over time. Students may also use this to provide teachers with feedback.

Please indicate the extent to which you provide for each of the elements below.

Part I: Instructional Elements

Never	Sometimes	Routinely	The instructional strategy:
1-----	2-----	3	a. encourages student autonomy and initiative
1-----	2-----	3	b. uses primary sources, data, manipulative, or interactive materials
1-----	2-----	3	c. asks students to do things like, "apply, analyze, predict, create, design"
1-----	2-----	3	d. allows student interests and choices to drive or alter the focus of learning
1-----	2-----	3	e. asks about student understanding before sharing your own thoughts, ideas
1-----	2-----	3	f. builds on students prior knowledge...asks student to build on their answers
1-----	2-----	3	g. provides challenges, asks interesting, open-ended questions, students must really think
1-----	2-----	3	h. provides students with opportunities to voice their opinions and concerns
1-----	2-----	3	i. allows for teacher voice and participation as a partner in the learning process
1-----	2-----	3	j. uses metaphors and images to express or represent key concepts
1-----	2-----	3	k. nurtures students' curiosity

(Add up this set of scores)

Instructional Sub-total _____/33

Part II: Assessment Elements

Never	Sometimes	Routinely	The assessment strategy has these characteristics:
1-----	2-----	3	a. An obvious, overriding purpose for the work exists.
1-----	2-----	3	b. Specific learning goals/targets are effectively communicated to students.
1-----	2-----	3	c. Acceptable standards of quality work are provided or jointly designed.
1-----	2-----	3	d. Student understanding of goals and expectations for quality are checked.
1-----	2-----	3	e. Pre-instructional assessment of students' prior knowledge adjusts teaching.
1-----	2-----	3	f. There is a direct audience for the work.
1-----	2-----	3	g. Learning activities produce evidence of understanding, knowledge, or skill.
1-----	2-----	3	h. Continuous feedback for purposes of improvement is offered.
1-----	2-----	3	i. Learning is exhibited in a real-world context.
1-----	2-----	3	j. Performance is judged by local experts and/or real-world standards of quality.
1-----	2-----	3	k. Multiple sources of evidence of learning is gathered and judged for final evaluation.
1-----	2-----	3	l. Reflection is used throughout the learning process.

(Add up this set of scores)

Assessment Subtotal _____/36

(over please)

Part III: Service Learning Elements

Never Sometimes Routinely

- 1----- 2----- 3 **The service learning strategy:**
- 1----- 2----- 3 a. is designed to facilitate academic learning and citizenship
 - 1----- 2----- 3 b. meets a compelling community need that is of interest to students
 - 1----- 2----- 3 c. provides opportunities to work collaboratively and to think critically
 - 1----- 2----- 3 d. provides opportunities to take on new roles
 - 1----- 2----- 3 e. provides opportunities to take risks
 - 1----- 2----- 3 f. includes adult supervision for students
 - 1----- 2----- 3 g. expects sustained effort, preparation, and independent work
 - 1----- 2----- 3 h. recognizes and celebrates student competencies
 - 1----- 2----- 3 i. includes a final product or service that makes a meaningful contribution to the community
 - 1----- 2----- 3 j. connects the school to partners or sponsoring organizations in new ways

(Add up this set of scores)

Service Learning Subtotal _____ /30

Part IV: Institutional Support

Never Sometimes Routinely

- 1----- 2----- 3 **At my institution:**
- 1----- 2----- 3 a. Service-learning is part of the educational mission of the school.
 - 1----- 2----- 3 b. Support among colleagues, administration for service-learning exists.
 - 1----- 2----- 3 c. School policies support implementation of service-learning.
 - 1----- 2----- 3 d. Resources such as time, transportation, and budgets are available to support service-learning.
 - 1----- 2----- 3 e. I actively advocate for service-learning in my school and or community.

(Add up this set of scores)

Institutional Support Subtotal _____ /15

Using the Data For Professional Improvement

1. In which areas were you (your teacher, or your school) strongest?
2. In which areas were you (your teacher, or your school) least strong?
3. Establish one or two goals for yourself (your teacher, or your school) that will address the each of areas that need improvement.
 - a.
 - b.
 - c.
4. Now add up your total scores as a benchmark. Next time you use this tool, add up your score and see how you are improving. Try this two or three times a year. Good luck!

I. Instruction _____ + II. Assessment _____ + III. Service Learning _____ + IV. Inst. Support _____ =

Total Score _____ /114 ... this time.

9

REFLECTIONS ON THE STUDY GROUP PROCESS

While the principal objective of our work was to explore the assessment of learning through service, the process we used to do this is worthy of reflection. Our work, both at the state and national level, revolved around the formation and development of study groups. There are wide ranging opinions on how to define a study group and there are many permutations of study groups for different purposes and in different contexts. In fact, although given the same charge in this effort to study assessment, each state ended up with different types of study groups. Despite (or perhaps because of) these variations, we gained interesting insights into the study group process and continue to see this as a most valuable strategy for exploring ideas and, particularly, contributing to the professional development of teachers.

What is a study group?

Although there are surely more technical definitions, a workable way to describe our form of study groups is *a group of people that come together regularly over an extended period of time to study a particular issue*. The absence of any specific procedure in this definition may actually be its strength. By not strictly defining a particular protocol, the process that evolves is determined by and responsive to the members of the group.

Some local study groups chose to meet for “mini-retreats” — two-day affairs that helped the group bond and allowed for wide ranging discussion. Others met for two to four hours after school. One group met weekly for a while, others met only a few times a year. Some groups had more loose agendas and allowed the conversations to follow member interests, others had a more focused agenda that addressed predetermined topics. In the end, I don’t think we would say one approach was better than another. The process that works for a particular group is the one that seems most worth following.

Obviously, the format a group adopts depends a lot on context. States with a wide geographic spread, such as California or Maine, needed to meet less frequently but for a longer duration. Washington, D.C., with its close geographical proximity, was able to meet more regularly. Some groups had members who were more process oriented and willing to tolerate greater ambiguity and openness; other groups had members who desired greater clarity of purpose and direction. The strength of the study group process is that it can work in almost any setting for almost any subject with almost any group of people. The key to its success is the degree to which the process is made to work for those particular people involved.

Study Group or Work Group

Our various groups functioned as both study groups and work groups. Some participants wanted a clear distinction to be made, and felt it was important to respect the study group function to freely explore ideas and issues, without the need to concern themselves with any particular product. For these individuals, the National Study Group became a work group as it focused on producing this guide (which was a requirement of the grant funding our work), and we put energy into time lines, assignments, and tasks that determined the direction of our work.

Other study group members did not see this distinction so clearly. While they appreciated the study process that occurred the first year or two, eventually they felt that it was time to show some results for their efforts. For many, without a product to focus their work, all this study could begin to feel like talking in circles. While there needn't be a final report to guide study group work, it seems that some form of periodic milestone is useful to check-in on how the study group is going, what has been accomplished, what changes need to be made, and what should be future directions and priorities. Although there are probably some groups where open exploration and support meets members needs, for teachers, who are aware of the concrete realities of the classroom, some product resulting from the process helps substantiate the study group's accomplishments.

Benefits of Study Groups

All forms of professional development, including the study group process, aim for increased knowledge and understanding about whatever is being studied. This is certainly a benefit of study groups, and in fact, because of the on-going, collaborative, and inquiry-based nature of this process, it can be argued that understanding generated by this process is deeper, more long lasting, and more pertinent to the circumstances of each member of the group. Study groups are a prime example of constructivist learning, where participants make meaning around an issue important to them by thinking and talking with others. Because study groups are member driven, the topics are meaningful to the members and their learning is targeted to their own context.

Beyond the depth of learning, the other major benefit of the study group process we witnessed was the feeling of status it offered to teachers. Typical professional development approaches in schools involves some sort of "expert" (a college professor, an educational consultant, a state official, or a "star" teacher) instructing teachers on some aspect of improved teaching practice. This hierarchical model clearly places teachers as the lower status individual, expected to learn from someone more knowledgeable than they. Study groups, in contrast, can be tremendously empowering, as teachers learn together as equals. All members of the study group bring their experience and expertise to contribute to the learning of the group. In the case of our state study groups, the shared learning of teachers alongside "experts" from the state departments of education or from the world of higher education sent a

powerful message that teachers' knowledge was valued and valuable. It was obvious in these groups that teachers were honored for the perspective and experience they brought from "the trenches."

When teachers feel valued and empowered through the study group process, there is an on-going benefit for teachers to continue to see themselves as learners and teachers. Through membership in a study group, these teachers discovered a process they could use to study other issues in education. They came to see themselves as capable of guiding their own learning and contributing to the learning of others, and they came to see they had expertise and insights that could be helpful to others. These lessons are ultimately true professional development, not only contributing to increased knowledge, but also to improved professionalism for educators.

Shared Misunderstanding Somewhat paradoxically, the ability to see oneself as having expertise to share seemed predicated on also acknowledging a shared sense of incompetence. For many teachers, isolated in their own classrooms and having few meaningful opportunities to share their teaching experiences with others in a supportive environment, there is a persistent misperception that they are the only ones who face the problems they do in their teaching. Some teachers feel everyone else has fewer discipline problems, or is more effective reaching every student, or understands exactly how to assess student learning. Of course this isn't true, and once our study groups came to trust in their fellow group members and began to share openly and honestly, it became clear that many shared similar challenges. Everyone, it appeared, struggled with how to assess student learning, how to balance the need to address standards yet still honor the individual child, how to give feedback that improves the quality of student work, and how to give grades that are fair, valid, and helpful to encourage student learning.

Coming to recognize these are universal dilemmas for teachers cannot happen in isolation. *Only such collaborative structures as the study group can provide a venue for this honest sharing.* When teachers come to see these challenges not as individual shortcomings but as common issues inherent in the profession, teachers feel able to explore them collectively. When these issues are seen as universal, teachers can acknowledge their complexity, admit there are no easy answers, and begin the hard work of methodically and collaboratively making progress to improve their practice. Ultimately, this fits with what is known about the change process in schools and how any substantive and sustainable change takes years of consistent and persistent effort. The study group process mirrors the change process by being a sustained, constructivist, and collaborative effort that acknowledges the true nature of change in schools.

Collaboration and collegiality Perhaps the most important aspect of study groups is their collaborative and collegial nature. The presumption is that each study group member is there to study and learn. No member is expected to come as the expert to teach others (although

groups may ask for members or outsiders to “present” their expertise to the group at some point as a jumping off point for further study). Membership in our groups was determined by each member having some experience with either service-learning or assessment and having a willingness to learn with others.

This shared interest in studying issues of assessment and service-learning set the stage for collaborative inquiry. As study group members shared their experiences, it became clear that no one had all the answers for how to assess student learning through service. Everyone brought a different perspective and a different piece of the puzzle. Reconciling these different perspectives and developing shared understandings became the work of the study group. Being able to admit one’s own struggles depends on trusting others.

A safe place to reflect The study group affords a safe place for teachers to reflect on their practice. Because it is a shared, collegial experience, the study group contributes to a sense of identity and trust over time that can honor individual difference and tap into individual strengths. Teachers know too well how little time there is for reflection on their practice in the daily life of schools. The chance to reflect with others, to process experiences, and to explore new ideas is all too infrequent. Study groups directly address this need for reflection as part of the professional growth process.

Growth and Change Can Be a Messy Process

In the end, the power of the study group process was in its true representation of the growth process. The study group process is respectful of the fact that teachers know that there are no easy solutions for the complex issues they face. In truth, as experienced educators recognize, improving schools and one’s teaching practice is a journey. This journey may well have no definitive end in sight, the road may be pocked with potholes, and sticking to the path may be an act of faith at times. But for the teachers in these study groups, this process felt real to them — it wasn’t always easy and it didn’t always have immediate results, but it honored participants as professionals with expertise and experience to contribute, and, over time, it contributed to teachers’ own learning and sense of professional status.

Desire to Continue

Finally, because the agenda of the study groups is driven by its members, the study group experience is purposeful and personal. The work of the study group, while sometimes messy, was focused on the classrooms of the teachers in the group. This wasn’t abstract theory for the generic classroom and the typical student. The focus of the study group is the particular circumstances the participants face in their professional practice. Because this work is specific to their needs and context, in the end, almost all study group participants expressed a desire to continue to meet, to form study groups in their own settings, and to continue the struggle with ideas and issues that make them better teachers.

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[Note: members positions and contact information may have changed since publication.]

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Appendix B: Assessing Student Learning Through Service Bibliography

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Instructional Materials

Author: Cunningham, Marilyn

Title: *Assessment: an Integral Part of Experience and Learning*

Year: 1996

Availability: Located in "Issue 4: Curriculum Integration" section of Critical Issues in K-12 Service Learning: Case Studies and Reflections. National Society for Experiential Education, 3509 Haworth Dr, Ste 207, Raleigh, NC 27609-7229; Phone: 919-787-3263; URL: www.nsee.org

Abstract: The author notes how the academic validity of service learning is critical for the growth of service learning. She notes that assessment must show relationship to larger academic goals. Cunningham's model allows students to assess the content learned in service learning through their favorite method of documentation. Process learning is assessed by the stating of the learning objective, gathering of data, analyzing of data, generalizing, and communicating. Context learning is assessed through checklists, rating scales, and time sheets. A copy of a service learning activity sheet and student evaluation form are included in the article. (SH)

Author: Duley, John S.

Title: Learning Outcomes: the Measurement and Evaluation of Experiential Learning

Year: 1982

Pages: 8

Availability: From the "Panel Resource Papers" series; number 6; Jane C. Kendall, editor. National Society for Experiential Education, 3509 Haworth Dr, Ste 207, Raleigh, NC 27609-7229; Phone: 919-787-3263; URL: www.nsee.org

Abstract: The focus of the paper is to measure and evaluate the learning acquired by students in field experience education, not on program evaluation. Measuring and evaluating are but two steps in the six step process of evaluation. (SH)

Author: Melchior, Alan; Bailis, Larry

Title: Evaluating Service Learning: Practical Tips for Teachers

Year: 1997

Availability: Social Studies Review; v36 n2 p40-42 Spr-Sum 1997

Abstract: Outlines approaches for student evaluation in service learning projects. Maintains that most service learning project participants' goals fall into three broad areas: civic development, academic achievement, and personal or social development. Assessment in these areas can be accomplished through tabulation of service hours, student journals, and site supervisor evaluations. (MJP)

Authors: Renner, Tanya; Michele Bush

Title: Evaluation and Assessment in Service-Learning

Year: 1997

Availability: Campus Compact Center for Community Colleges; 602-461-7392

Abstract: "Evaluation and Assessment in Service-Learning" is a resource for those involved in service-learning who want to improve both their programs and their awareness of the far-reaching as well as the immediate impacts their programs have. This compilation includes both the why and the how of assessing service-learning programs and impacts, including student pre and post tests, surveys, and resources. Essays include: What are We Trying to Evaluate in the Name of Service?; How are We Doing? Or What Good is Evaluation Anyway? Observations from a Service-Learning Consortium; Service-Learning Program

Assessment: Quality Assurance and Survival; Service-Learning Evaluation: The Mesa Community College Experience; The WIN, WIN, WIN Relationship; The Compassion Connection: The Integration And Assessment of Service-Learning Within A Learning Community; Once is Not Enough: Assessing Service-Learning; Participatory Evaluation for Tutors and Learners; and Counting With Care: Assessing Dimensions of Community Development Focused Service-Learning. (author)

Author: Richardson, Scott

Title: Service Learning Teacher Training Manual

Year: 1996

Availability: Service Learning Unit, Close Up Foundation, 44 Canal Center Plaza, Alexandria, VA 22314; Phone: 1-800-CLOSEUP, ext. 487, or fax: 703-706-0001.

Abstract: A guide for trainers wanting to help teachers use service learning in their classroom. It covers integrating service learning with curriculum, using reflection in the classroom, increasing student and community involvement in project planning, assessing student work, and much more. (Author)

Author: Warren W. Willingham

Title: Principles of Good Practice in Assessing Experiential Learning.

Year: 1977

Availability: EDRS -- ERIC number is ED148840

Abstract: The Cooperative Assessment of Experiential Learning project (CAEL) has developed general principles for assessment of prior experiential learning which can be adapted for local circumstances and individual learning. An overview of the basic principles of good assessment practice, as represented in current CAEL publications, is provided. Procedural guidelines are presented, with reference to fuller discussion in other CAEL reports. An annotated bibliography of 27 CAEL reports is appended (ERIC).

Instrument Examples

Authors: Conrad, Dan and Hedin, Diane.

Title: Instruments and Scoring Guide of the Experiential Education Evaluation Project.

Year: 1981

Availability: National Service-Learning Clearinghouse, University of Minnesota, 1954 Buford Avenue, R460 VoTech Building, St. Paul, MN 55108; Phone: 1-800-808-7378

Abstract: As a result of the Experiential Education Evaluation project, the publication identified instruments used to measure and assess experiential learning programs. The following information is given for each instrument: rationale for its inclusion in the study; precise issues or outcomes designed to measure validity and reliability data; and directions on how to score. Descriptions of assessment tools are organized according to four categories: Instruments on Social Development (Social and Personal Responsibility Scale, Semantic Differential on Attitudes toward Others, Semantic Differential on Community Participation, and Career Exploration Scale); Instruments on Psychological Development (Rosenberg Self Esteem Scale and Janis Field feelings of Inadequacy Scale); Instruments on Intellectual Development (Problem Solving Inventory); and Instruments on Differential Program Impact (Characteristics of a Community Field Experience Checklist, Experiential Educational Questionnaire). The appendix contains the complete Experiential Education Questionnaire, pretest and posttest (ERIC).

Author: Davis, Kathleen M.; Miller, M. David; Corbett, Wes

Title: Methods of Evaluating Student Performance Through Service-Learning

Year: 1997

Availability: Florida Learn and Serve K-12, Center for Civic Education and Service, Florida State University, 930 W Park Ave, Tallahassee FL 32305-2059; Phone: 904-644-3174

Abstract: The authors note that though service learning is being widely used in school settings, measures to assess it are sparse. The document outlines some approaches and examples that might be helpful in examining effectiveness of service learning. Because service learning is so diverse, there arises many ways to assess it,

from formal procedures like Likert scales to informal measures (like open-ended reflections). Sample forms include service logs, rating scales, observation forms and checklists, journals logs, and portfolio instructions. (SH)

Study Examples

Author: Davis, Donald Raymond

Title: The Effectiveness of the Assessment of Learning Outcomes of Students in Experiential Learning Programs

Year: 1988

Publication Type: Dissertation

Institution: Southern Illinois University

Abstract: This study traced the development of the assessment of experiential learning from 1974 to 1986 and identified the most effective tools and techniques used to measure learning outcomes of students in experiential learning programs. The study asked 206 instructors and administrators of experiential learning about their program implementation data, purpose of assessment activities, types of assessment tools and the effectiveness of those assessment tools. Results indicate that written assessment was deemed the most effective tool for experiential learning. There is a national trend toward program enhancement in experiential education. Program improvement remains as a prime purpose of assessment and evaluation in experiential education. Simulation/Role Playing, Performance Testing, Self-Assessment, Debriefing Interviews, Product Assessment and Written Assessment were the identified as assessment techniques used by the subjects: Written Assessment being the most frequently used and most effective technique.

Authors: Driscoll, Amy; Barbara Holland

Title: Assessment Model for Service Learning: Comprehensive Case Studies of Impact on Faculty, Students, Community, and Institution

Year: 1996

Availability: Michigan Journal of Community Service Learning. Fall 1996. Article 7, p.66-71; OCSL Press, University of Michigan, 1024 Hill St., Ann Arbor MI 48109-3310; Phone: 734-763-3548; Email: OCSLPRESS@umich.edu

Abstract: A comprehensive case study model of assessment developed at Portland State University responds to the need to measure the impact of service learning on four constituencies (student, faculty, community, and institution). The case studies blend quantitative and qualitative measures in order to determine the most effective and practical tools to measure service learning impact and to provide feedback for continuous improvement of practice. Insights from the design process and preliminary results have potential value for institutions with similar agendas for service learning and community partnerships. (author)

Author: Hesser, Garry

Title: Faculty Assessment of Student Learning: Outcomes Attributed to Service-Learning and Evidence of Changes in Faculty Attitudes About Experiential Education

Year: 1995

Availability: Michigan Journal of Community Service Learning, v2 p33-42 Fall 1995

Abstract: Results of a survey of 48 college faculty from diverse disciplines and institutions support the hypothesis that faculty feel that both liberal arts and disciplinary learning derive from field study and service-learning, suggesting a shift in faculty attitudes about service-learning from skeptical to affirming. It is proposed that experiential learning and reflective practice have become established in higher education. (MSE)

Author: Kim, Simon; And Others

Title: Effects of Participatory Learning Programs in Middle and High School Civic Education

Year: 1996

Pages: 6

Availability: The Social Studies, v87 n4 p171-176 Jul-Aug 1996

Abstract: Evaluates three participatory civic education learning programs developed by the Citizenship Education Clearing House: the Election Program, Missouri State Government Program, and the Metropolitan Issues Program. Evaluation consisted of questionnaires, observation, and interviews. Discovers that the programs are both popular and effective. (MJP)

General Discussion

Authors: Blash Cumbo, Kathryn; Jennifer A. Vadeboncouer

Title: What are Students Learning? Assessing Service Learning and the Curriculum

Year: 1998

Availability: American Educational Research Association; 1230 17th Street, NW, Washington, DC 20036-3078; Telephone: 202-223-9485; URL: www.aera.net

Abstract: This paper explores the meaning of learning in service by explicating how service learning links to current standards based reform agendas and how the academic learning associated with service learning can be assessed by teachers, professors, and community agency personnel. Cumbo and Vadeboncoeur seek to show how service learning can help produce a system of learning, teaching, and assessment that embraces democratic ideals, addresses real world issues, evaluates learning and teaching in authentic ways, and is based on high academic standards. (SH)

Author: Herrick, Michael J.

Title: Assessment of Student Achievement and Learning, What Would Dewey Say? A "Recent" Interview with John Dewey

Year: 1996

Pages: 13

Availability: Journal of Vocational and Technical Education, v13 n1 p17-29 Fall 1996

Abstract: An "interview" with John Dewey explores his view of educational assessment that measures both knowledge and its application as well as the impact of work and life experiences. His arguments for a unitary system that integrates vocational and academic curriculum are presented. (SK)

Videos

Authors: Cairn, Rich; Susan Cairn

Title: Assessing Learning Through Service

Year: 1999

Availability: Minnesota Department of Children, Families, and Learning, 550 Cedar Street, Capitol Square Building, St. Paul MN 55101; Telephone: 651-282-6743

Email: nancy.riestenberg@state.mn.us

URL: <http://www.cfl.state.mn.us>

Abstract: In "Assessing Learning through Service," teachers in three Minnesota schools demonstrate methods of authentic assessment or performance-based assessment as they document what students learn through service-learning experiences. Featured tools include rubrics, checklists, portfolios, site supervisor interviews, reflection journals, student self-assessment, and teacher visits to sites. These programs help students meet Minnesota's new project-oriented High School Graduation Standards. The study guide includes copies of assessment tools shown in the video. The tape may be shown in four independent segments. The tape and guide are designed for staff development of teachers implementing service-learning programs. (authors)

Periodicals

Applied Measurement in Education

365 Broadway, Hillsdale, NJ 07642, Lawrence Erlbaum Associates

Educational Assessment

365 Broadway, Hillsdale, NJ 07642, Lawrence Erlbaum Associates

Educational Leadership

Alexandria, CA: Association for Supervision and Curriculum Development

Educational Measurement: Issues and Practices

National Council on Measurement in Education, 1230 17th Street, Washington, DC 20036-3078

Journal of Educational Measurement

National Council on Measurement in Education, 1230 17th Street, Washington, DC 20036-3078

Michigan Journal of Community Service-Learning

University of Michigan, 1024 Hill Street, Ann Arbor MI 48109-3310; Telephone: 734-763-3548

Phi Delta Kappan

408 North Union Street, PO Box 789, Bloomington IN 47402-0789

Organizations

American Association for Higher Education Assessment Forum

One Dupont Circle NW, Suite 360, Washington, DC 20036; Phone: 202-293-6440

Works to improve higher education assessment practices and assist colleges in using assessment techniques to improve students learning. It provides information on recently developed assessment techniques and commissioned papers on higher education assessment. The Forum also offers consulting and networking services.

Association for Supervision and Curriculum Development (ASCD)

Network on Authentic Assessment

Pacific Educational Laboratory, Suite 1409, 1164 Bishop Street, Honolulu, HI 96812

Phone: 808-532-1900; URL: www.ascd.org

ASCD sponsors special interest groups called networks to help curriculum developers and supervisors exchange ideas, solve problems, and collaborate on issues of mutual concern. The network on authentic assessment is facilitated by Kathleen Busick.

Cascade Educational Consultants

Terry Pickeral, 2622 Lakeridge Lane, Bellingham, WA 98226

Phone: 360-676-9570; URL: <http://www.az.com/~pickeral/>

CEC's website includes overview, rationale, challenges, and methods to assess the impact of service-learning on students, teachers, schools, and community. It also includes models for assessing program impact and effectiveness.

Clearinghouse for Higher Education Assessment Instruments

University of Tennessee, Knoxville, 212 Claxton Education Building, Knoxville, TN 37996

Phone: 615-974-3748

Gathers information on standardized and faculty-developed instruments and methods to assess the outcomes of higher education. The clearinghouse provides collections of assessment instruments on student services/student development, institutional effectiveness, basic skills and general education, affective

assessment, portfolio assessment, and assessment instruments in the major.

Constitutional Rights Foundation

601 South Kingsley, Los Angeles CA 90005; URL: <http://www.crf-usa.org>

Publishes the CRF Network Newsletter on a regular basis, which carries information on new books, mini-grants, current materials, and descriptions that include assessment of school/youth/service partnerships.

The Council of Chief State School Officers State Education Assessment Center

One Massachusetts Avenue NW, Suite 700, Washington, DC 20001-1431; Phone: 202-408-5505

The Council established the State Education Assessment Center to improve the quality and comparability of data on education, including state-by-state achievement data, indicators of quality in such areas as math and science, and performance assessment of teachers and students.

ERIC Clearinghouses on Assessment and Evaluation

The Catholic University of America, 209 O'Boyle Hall, Washington, DC 20064-3893
Phone: 202-319-5120

Acquires, selects, and abstracts education information on testing and evaluation, including measurement devices, research design, and methodology.

National Center for Service-Learning and School Change

333 Market Street, Harrisburg PA 17126, 717-787-6749

The center supports redesigning school structures, curriculum, and assessment practices through service learning.

National Council for the Social Studies

3501 Newark Street NW, Washington, D.C. 20016

Regularly publishes articles of special interest on civic education and school-based service-learning.

National Research Center on Student Learning

University of Pittsburgh, Learning Research and Development Center
3939 O'Hara Street, Pittsburgh, PA 15260; Phone: 412-624-7020

Explores how thinking and reasoning skills can be taught and examines how content in various subjects, particularly mathematics, science, and social studies, is learned. The center also investigates exemplary teaching practices and ways to teach students how to become competent thinkers, learners, and problem solvers. Research information is disseminated through a newsletter and technical reports.

Northwest Regional Educational Laboratory (NWREL)

101 South Main Street, Portland, OR 97204-3297
Phone: 503-275-9500; URL: <http://www.nwrel.org>

Operates that Center for Applied Performance Testing, which exists to help schools achieve better assessment of student outcomes and use assessment and evaluation information more effectively. NWREL also maintains a collection of tests and offers a video series on assessment for teachers and administrators.

NWREL also has an assessment and evaluation program that translates for educators and community leaders the best research into practical, user-friendly resources and service for the assessment of educational results. For more information call the number listed above or visit <http://www.nwrel.org/eval/index.html>

RMC Research Corporation

1512 Larimer Street, Suite 540, Denver CO 80202

Phone: 800-922-3636 or 303-825-3636; URL: <http://www.rmcdenver.com>

RMC Research Corporation brings both variety and depth of research and evaluation expertise to its clients for either quantitative or qualitative studies. RMC Research Corporation staff can assist with literature reviews, cross-site analyses, focus groups, electronic or written surveys, interviews, evaluation instrument design, historical studies, longitudinal studies, or comprehensive case studies.

